

ARB CLIMBER

AERIAL ARBORICULTURE • TECHNIQUES • CLIMBING & CUTTING EQUIPMENT



ISSUE
26
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ARB CLIMBER

issue

26

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Headtorches?

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FRONT COVER:

This issue's cover features a French arborist equipped almost exclusively with Petzl gear: from the Eject in the foreground and double ZigZags on Petzl Flow rope to the Am'D carabiners, Cordex Plus gloves, Sequoia harness and Strato helmet with visor. If only Petzl made work clothing, chainsaws and underpants this man would never need to shop anywhere else!



PETZL arb gear



ED: *PETZL*..... Excellent, something older than me. *Petzl* has been around since the 30's in the guise of founder Fernand but as the entity known as *PETZL* since 1975 - Happy Anniversary. *Petzl* has a pedigree and a background in rope activities that few can match. They started in the unforgiving world of caving which is how we first came across the *STOP* descender, a revolution at that time as the first fully functioning 'hands-off-to-stop' descender and immediately tried out for work activities. They were actually better known for their headtorches and that is still a massive part of their business for which they continue to push the design envelope - look out for a new *PIXA* line up this year with its smaller brother the *TIKKA* having had a moment of fame as the preferred lighting for astronauts on the International Space Station. They produce all kinds of slick gear but it's their continued development of rope-related hardware that always excites us the most - you can't beat some new shiny stuff landing on your doormat; the *ZIGZAG*, *EJECT* and *NAJA* for tree work, the *GRIGRI*, *MAESTRO* and *I'D* for rescue and rope-work and, more black than shiny, the original *NAVAJO* harness now evolved into the *SEQUOIA*, *AVAO* and *ASTRO* harnesses. The *NAVAJO* was ground breaking stuff, far and away the best harness we had ever seen and used at that time and remained unopposed for an extraordinary amount of time. Every manufacturer has the odd hiccup with safety gear but *Petzl* always instil confidence and we're always keen to see the next innovation from them.

PETZL: 50 YEARS OF INNOVATION AND EXCELLENCE

"ACCESSING THE INACCESSIBLE" is the driving force behind everything we do, We've built our entire design and manufacturing philosophy around exceeding your needs in the field for both professional and sport users. This is the way we've done things for fifty years — and we won't be stopping anytime soon!

PETZL PILLARS

Petzl is built around four pillars, four fundamental values that motivate every decision we make: Remaining a stable family business; Encouraging innovation to imagine the best solutions; Insisting on industrial excellence with the goal of zero defects; And remaining engaged with our communities.

INNOVATIONS THAT CHALLENGE CONVENTION

Since pioneering the first headlamp in 1973, *Petzl* has continuously pushed the boundaries of innovation. The launch of the *GRIGRI*® in 1991 revolutionized belay techniques with assisted braking, and the *MAESTRO*® rescue descender, introduced in 2019, set new standards in rescue operations. From its inception in 1970, *Petzl's* mission has been to enhance safety and comfort for those navigating demanding terrains.

PETZL TREECARE SOLUTIONS

The job of an arborist is like no other. Accessing and moving through the branches of a tree requires unique skills, techniques, and equipment. Petzl provides class-leading equipment solutions so that teams like Canopée Verticale and LibertTree, shown here pruning a tree in Annecy, France, can be highly efficient in their work. The tree care solution used includes a STRATO VENT helmet with a nape protector and VIZEN MESH face shield, EJECT friction saver, SEQUOIA harness, ZIGZAG PLUS and FLOW 11.6 mm rope.

To find out more about Petzl tree care solutions, visit petzl.com/moveintrees

ZIGZAG®: REDEFINING TREE CARE

One standout product in Petzl's lineup is the ZIGZAG®. Inspired by the traditional prusik system used by arborists. Its development began in 2008, with the first version released in 2012. Today, the ZIGZAG®, ZIGZAG PLUS® and CHICANE are trusted tool for arborists worldwide.

AVAILABLE NOW

Oops, we did it again.

We pioneered another game-changing chainsaw innovation.

Introducing the world's first battery chainsaw with a clutch. Stay in the cut longer – with added torque and exceptional cutting performance. Just like the inertia chain brake, Air Injection™, and AutoTune™, we expect the others to follow us soon. But they'll never beat the original.

Feels like gas, performs like gas, but with all the benefits of battery. **How's that for coming in clutch.**



Use rain or shine

IPX4 rating for most weather conditions



Easy to use & maintain

Instant on/off with less parts to maintain



Performance equivalent to gas

Power on par with 40cc engines



Active cooling technology

For consistent power and longer battery life



NEW

T542i XP®



NEW

542i XP®



“Wow, so much power – instantly.”

Krista Strating
Arborist | Ontario, Canada



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EDITOR'S COMMENT:

We at ARBCLIMBER have been using Petzl since their first STOP descender in the 80's and ropes from Rivory Joanny (as was), Cousin-Trestec, Edelweiss and Beal for just as long, so French brands have always been a major part of our own climbing kits. We also have a symbiotic relationship with the excellent French magazine *Arboriste*. So, despite the bizarre minority Brexit vote for the UK to leave the EU (and yet to see a single benefit), a new era of Entente-Cordiale within Europe has emerged following the torpedoing of international trade and defence alliances by the current US regime which will, unfortunately, see increased prices and/or less choice for everyone but for US readers especially. This issue's PRODUCTS-ROPE STUFF looks mostly at French hardware innovations from FTC TREE and Hexarope. Unlike Petzl, they're not so well known outside of their native France but well worth a look. We start with FTC TREE's adjunct for their Freexion system that we looked at in issue 25 or, to be precise, an adjunct to their existing adjunct (the Italian CAMP-made Sphinx/Sphynx pulley); *Rise-Up* is a spacer as well as a chest harness connection.....



HEXARING

by *Hexarope* is a compact and innovative friction ring, specifically designed to meet the needs of arborists during tree dismantling operations. Unlike traditional friction rings derived from the marine industry, the *HEXARING* was designed from the ground up for pruning and dismantling, providing better compatibility and greater care for the ropes.

What is a friction ring?

A friction ring is used by arborists to control the descent of heavy loads, such as branches or sections of trunk during tree felling and dismantling operations. It helps regulate the descent speed by increasing friction on the rope, thus reducing the dynamic load that could otherwise damage the ropes, equipment, or even cause accidents. The friction ring acts as a passive brake that allows for control and ensures the safety of operations at height.

Optimized design for tree care: The *Hexaring* is the first friction ring specifically designed for tree care, respecting the unique demands of this practice.

Ergonomic design and splice-friendly: Its unique teardrop (or pear) shape is specifically designed to accommodate the natural shapes of splices, often used by arborists to secure anchor points on the rope. This design prevents splices from being crushed, a common issue with traditional cylindrical friction rings.

Respect for rope bending radius: With a curvature factor of 4, the *Hexaring* ensures the ropes bending radius is respected. This detail is crucial, as an improper bending radius can cause premature wear on rope fibers and shorten their lifespan. **Compact size and lightweight:** The *Hexaring* stands out with its compact size and lightweight design, making it easy to transport and use without sacrificing performance. Compared to other friction rings with similar capacities, it is much lighter and easier to handle, making the arborist's work in challenging conditions more manageable.

Hard anodization: The aluminum body is coated with hard anodization, providing increased resistance to wear, corrosion, and the tough conditions that tree care equipment is often exposed to. This ensures greater longevity of the tool.

www.hexarope.com

FTC TREE RISE UP



The *Rise Up* was specifically developed for use in conjunction with the Freexion from FTC. It prevents the side plates of the *Sphinx* pulley from being compressed and provides an additional carabiner attachment (Ø 13.5 mm/1/2") to connect the *Freexion* system to a chest harness and pulls up the friction hitch as you climb.

- **Strain-Free Climbing:** The *RISE-UP* prevents undue stress on the *Sphinx/Sphynx* pulley's side plates stopping them from squeezing together under high load, allowing for smoother and more efficient ascents.
- **Enhanced User Experience:** By connecting to your chest harness, the *RISE-UP* moves with you, providing optimal comfort and support during climbing.

Cost Approx. £14 \$18 €16 for the *Rise-Up* so the complete *Freexion* system as shown above with the *Sphinx* pulley, high-strength tether, carabiner, *Rise-Up* and the *Freexion* itself (allowing tool-free, on rope friction changes) costs around £256 \$330 €281 www.ftc-tree.com

HANDS-UP

Knotless Rigging

Available in three sizes the *Hands-Up* is HexaRope's own variation on knot replacements like Notch's much larger *Backbone*. It is designed to tackle the age-old problems of knot tying in arboriculture during rigging operations especially the knot tightening caused by dynamic loading or the excessive friction of a choked loop where the rope/sling is passed through its own eye to create the choke.



In this way, *Hands Up* ensures smoother and faster operations, preserving the rope's integrity, its breaking strengths and enhancing safety. Ideal for arborists seeking efficiency and reliability in their rigging work:



Time-saving ●
Node-free design ●
Improved safety ●
Ease of use ●
Durability ●

SPECIFICATIONS

www.hexarope.com

HANDS UP	Small	Medium	Large
Origin			
Material	Stainless Steel SUS 316		
Weight	136g 4.8oz	252g 8.9oz	487g 1.07lb
Dimensions	75 x 12mm 3 x 0.5"	90 x 15mm 3.5 x 0.6"	124 x 18mm 4.9 x 0.7"
MBS	39kN 8767lbf	60kN 13488lbf	96kN 9789lbf
WLL	6.5kN 1461lbf	10kN 2248lbf	16kN 3596lbf
Cost (inc. tax)	£24	£38	£60
<small>≠ Currency Conversion only</small>	\$31	\$50	\$78
	€27	€44	€72

VERTICAL FREEDOM

by **EDELRID**

NEW

TREEREX II

Comfortable tree-care harness with variety of rope bridge configurations.

Compatible with VECTOR CHEST X and Y.

3D Vent technology and wide semi-rigid padding for hanging comfort and breathability.

Integrated bungee tool.

New, large, angled D-rings for enhanced freedom of movement.

NFC
Integrated NFC transponder for simplified documentation.

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HEXARIG



Designed for demanding professionals, the **HEXARIG** is an innovative lowering device crafted from solid aluminum without welds, ensuring both strength and durability. Each component of the **HEXARIG** is replaceable, offering exceptional longevity to your equipment.

One of the key features of the **HEXARIG** is its integrated thermal diffuser, specifically designed to limit rope overheating during dismantling operations, thereby enhancing safety and maintaining consistent performance while ensuring greater longevity for your rigging ropes. Additionally, the **HEXARIG**'s cylinder is reversible, allowing you to extend its lifespan in case of wear without compromising the tool's reliability.

The **HEXARIG** is more than just a lowering device; it's an investment in the safety and efficiency of your rigging and dismantling operations.

- Adjustable lowering fairleads: They are removable and replaceable, can be positioned as needed, and their number can be increased or decreased.
- Removable main line fairleads: providing optimal rope guidance, preventing overlaps on the bollard.
- Reversible aluminum bollard: Machined from solid

material, with a diameter of 120mm and a thickness of 22.5mm, it is equipped with vents to enhance heat dissipation. Since it is not welded to the mounting plate, you can rotate it to manage wear areas effectively.

- Ratchet straps slot: For straps up to 50mm wide (provided with the product). The system allows the ratchets to be positioned away from the work area, avoiding any interference with the rigging ropes.
- Mobile multi-function bar: aids in rope guidance and can be used as an attachment point for a pre-tensioning system.
- Through vents: enhancing the bollard's heat dissipation capacity.
- Reversible mounting plate: Machined from solid aluminum, with a thickness of 25mm, a width of 180mm, and a height of 250mm. Its compact design allows it to be used on small-diameter trunks.
- Replaceable protection pads: Providing increased stability of the system when attached to the trunk.

Bollard attachment: Secured by 12 stainless steel M10 screws, 55 mm in length. This ingenious system allows you to either rotate or reverse the bollard, and also to replace it with a new one without having to purchase an entirely new system.

Removable lowering cleats (red): They are replaceable or detachable, providing enhanced rope control in all situations.

Transport case : Made of lacquered aluminum with dimensions of 51.5x32x23 cm, it facilitates the storage and transport of your **HEXARIG**. Its generous size also allows you to store and transport your slings and rigging pulleys. Wooden double bottom Includes a securing strap to keep the **HEXARIG** firmly in place during transport.

Ratchet straps: 50 mm wide and 9 m long, offering a maximum breaking strength of 50 kN.

The **HEXARIG** lowering device is not PPE and should not be used for securing climbers. It is intended for use only in tree rigging and/or dismantling operations by properly trained personnel. Adhering to the WLL (Working Load Limit) is essential to ensure worker safety and avoid any risk of accidents related to equipment overload.

The Full **HEXARIG** system for which all detachable components can be separately purchase costs around £1300/\$1700/€1320 including VAT

www.hexarope.com



PRECISION CONTROL

In complex rigging situations, safety and adaptability are critical. The TopCrank rigging winch allows multiple rigging options to suit different environments. The dual-speed design enables precision maneuverability. The self-tailing Lokhead braking system reduces the risk of freefall of materials and accidental release. Take your rigging to the next level with the TopCrank winch from Harken.



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Winch 500 Kit

EN13157:2009 certified.

Kit comes with the winch mounted
on the plate. Also includes
254 mm aluminum SpeedGrip
lock-n winch handle B10ASG



harken.com

MINI-CHAINSAWS

movin' on up?

*ED: Mini Chainsaws look like a power drill with a chainsaw blade and were largely dismissed when they first appeared, perhaps because they were mainly coming out of China unbranded and seemed a bit of a gimmick. We did feature a professional French model aimed at the fruit industry some time ago but the basic concept has now reached mass-market proportions. It was expected that the homeowner brands would quickly get on board but now that pro brands Stihl, Makita, and Husqvarna have them as well, it's only a matter of time before they move from occasional/homeowner use to something even more durable. Some already are larger, cross-over saws like Makita's 18v DUC150Z, Milwaukee's M18 FHS20-552 and Husqvarna's Aspire models - these are lighter than a traditional saw in layout but, with larger batteries and longer 6 to 8" bars plus auto-oiling, they are more pro-orientated but have moved away from the 'mini' thing that we're talking about with the 'hand-drill' sized models. Even Stihl's GTA 26 that we've featured here is a step up in bulk from what we should probably now call 'micro' saws but it is lighter and more compact than the three crossover models mentioned above and does have a holster and can also be attached to a pole saw so you can see why we're thinking about its pro potential. The Kress KG343E on the right is another crossover being 20v and aimed at pro landscapers. At the moment the true 'mini' chainsaws including the Stihl GTA26, can be seen as a very handy little extra rather than something that will replace a tree saw or perhaps more appropriately, a handsaw. For fruit tree thinning, where you're operating only a few metres from the ground, they may well become the tool of choice for the larger twigs/branches from 1 to 3" in diameter, certainly faster than a handsaw but pretty bulky and (aside from the afore-mentioned higher powered crossover models) require regular battery changes with the current, smaller, sub-12volt battery systems providing somewhere around 15 to 30 minutes of run-time. Ground crew find them convenient every now and then and many, like the Stihl GTA-26, are small enough to be worn holster-style so they're immediately to hand. General aerial tree work, not so much, unless it's a very specific tool for a very specific task - perhaps some fiddly branch in a difficult position - maybe next to cables, or something requiring excessive reach but don't get blasé about safety, unlike your pro saws these don't have a mechanical chain brake so while they may look more 'toy-like' and most have a guard along the top of the chain/bar, they'll still do a fine job of traumatically amputating any of your body parts. We'll be including them in our **ARBORISTBUYERS GUIDE** in a few months as all chainsaws and chainsaw PPE are added but that will be on the proviso that they are aimed at occasional use NOT anything more sustained until or unless they are upgraded to be an obvious pro tool, as they undoubtedly will. They could do it now but the cost and bulk would probably seem like reinventing the wheel and trying to compete directly (and unsuccessfully) with a regular battery tree saw. You'll see from Stihl's website that they are aiming the GTA-26 more at garden owners but don't let that put you off looking more closely at how smaller battery tools like this can fit into your equipment inventory and perhaps even streamline some niche areas - don't go complaining to Stihl that you've worn it out though, they'll point you to the bit about garden-use!.....*



STIHL

GTA-26

The GTA 26 is Stihl's first battery-powered pruner and is designed to be comfortable and simple to use, the GTA 26 has comfortable, rubberised handles so it is easy to control. It also features a moving protective hood, a charge level indicator and tool-free chain replacement.

The GTA 26 comes with an AS 2 battery, an AL 1 charger, a bottle of Multioil Bio for lubricating the chain and a carry case, which also has eyelets on the back so it can be mounted on the wall, for neat storage. Please note; if you buy the GTA 26 without a battery or charger, it does not come with the carry case or Multi-oil Bio.



Battery run time: up to 25 minutes

A holster is available as a separate purchase to make your work easier, or our GTA 26 extension shaft means you can quickly convert the GTA 26 into a pole pruner.

- STIHL 1/4" Picco Micro 3 chain
- Manufactured in Switzerland, STIHL chains deliver impressive cutting performance, with galvanised teeth
- Moving protective hood: The GTA 26 has a hinged protective hood above the bar, which moves as you cut.
- Tool-free chain tensioning and replacement: The chain can be easily tensioned or replaced with the tool-free design.
- Charge level indicator means you can see how much battery life you have left at all time.
- Comfortable, rubberised handles for easy and accurate control.

Fabric carry case: The GTA 26 comes in a fabric carry case, along with the charger and battery. The GTA 26 also comes with a 50ml bottle of Multi-oil Bio to lubricate the chain [ED: Manual oiling that is].

Weight with battery: 1.4kg / 3.1lb

Approx cost with battery inc VAT/Tax £140 \$190 €201



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AGGRESSIVE, COMPACT
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NEW

KRESS Top Handle Chainsaw

Commercial-grade brushless motor

The KC320's Kress-built brushless motor delivers outstanding power and efficiency. Its design offers a longer lifespan and lower maintenance compared to traditional gas chainsaws, ensuring reliable and robust performance.

Safety first

Prioritizing user safety, our top handle saw integrates an inertia brake, dual-action trigger, battery release catch and multi hook combination. It is designed for reliable and safe operation.

Designed specifically for professional arborists, the KC320 top handle chainsaw by **Kress-Germany** delivers robust power with 2.4 kW and a chain speed of 24 m/s, rivalling a 45 cc gasoline chainsaw. Ideal for precise cutting tasks, it offers exceptional efficiency and maneuverability. The .325lp chain offers precise cuts with reduced kickback. As part of the **Kress Commercial CyberSystem**, it delivers high-end performance with the advantage of lower operating costs compared to gas and other battery systems. With a professional-grade cutting system, our chainsaw is meticulously engineered for precision and durability in woodcutting and tree maintenance. A tool crafted for enduring performance



Tooled tension system

The tool's tensioning system delivers precise chain tension control, enhancing both durability and performance. It allows for consistent and reliable cuts, optimal for professional environments

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TOP BRANDS

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Power Equipment

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SPECIFICATIONS		
Weight in hand	≥5kg	≥11lb
Weight body only	2.5kg	5.5lb
Voltage	60V	
Bar Length	35cm	13.8"
Chain Speed	24m/s	78.7 fps
Chain Brand	Oregon	
Chain Pitch	0.325" lp	8.25mm
Chain Gauge	1.1mm	0.04"
Oil Tank Volume	180ml	6 fl oz
COST 4Ah Nano Battery	£300	us\$370* €352
COST Tool Only	£560	us\$500* €706

*North American prices appear to be subsidised

Stainless steel bumper spike

Crafted for longevity and performance, the chainsaw's stainless steel bumper spike is built to be thicker and more durable. It not only enhances the chainsaw's stability and cutting efficiency but also supports controlled, safe operation across various woodcutting conditions.

Adjustable oil pump

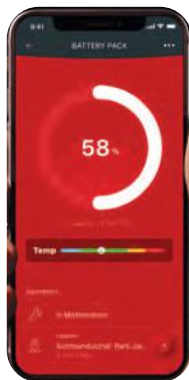
Adjust oil delivery to match different wood types for better lubrication and longer chain life.

Air inlet cover

Equipped with a detachable mesh cover to prevent debris clogging the air intake, it ensures easy cleaning and long-lasting performance.

Your landcare control center App

Check batteries' residual runtime, charge status and other stats. Manage anti-theft protection and much more.



KRESS Batteries

Kress do not assemble third-party cells, instead, Kress Nano and the larger 8-minute charge-time batteries are the fruit of extensive research and proprietary technology, engineered

to create the ideal power solution specifically for commercial landscaping demands.

- 60v 240wh Battery-
- 1.56kg Nano= £300
- 3kg 8-minute charge £600
- Lifespan of 1200 cycles
- IPX5
- Integrated bluetooth



www.kress.com

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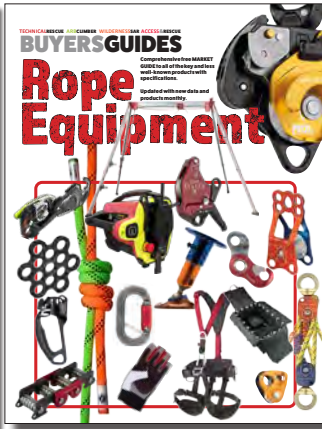
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Gain the advantage with CMC's new

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BUCK-TREE THROTTLE

The newest, most advanced arborist device yet

[ED: This is a variation on the **Akimbo** rather than a completely 'new' design but it does address at least two of the issues some climbers have with the current crop of ascending/descending devices - it can more easily switch between SRS (Single Rope) and MRS (Doubled Rope) systems without the need for tools and it can be attached to the rope midline, also without the need for tools. It's always easier to improve on an existing model than to invent something from scratch but the Throttle has done a good job of providing meaningful changes. See the **ARBORIST BUYERS GUIDE** for updated/ updating spec]



The Throttle is the ultimate mechanical rope climbing device for arborists, combining cutting-edge technology with rugged durability.

Designed to excel in both MRS (Moving Rope System) and SRS (Stationary Rope System) climbing, The Throttle adapts effortlessly to your climbing style, whether you're ascending quickly with SRS or positioning yourself with precision using MRS. Ideal for climbers at any level, it offers unmatched performance and control, built to handle even the most demanding tasks in arboriculture.



- The Throttle is midline attachable and works seamlessly in both MRS & SRS modes requiring no other tools or components
- 7/16"/11mm to 1/2"/13mm ropes
- Enhanced Durability: Features larger 304 stainless steel friction components, significantly increasing wear resistance.
- Superior Descent Control: more controlled friction when descending, avoiding the overly sensitive release of some competitor products. Intuitive operation, it ensures smooth, predictable handling, even for novice arborists.
- Replaceable Wear Components
- ANSI Type 4 certified
- Cost = \$500

www.buckinghammfg.com



Tree care harness for professionals

ARBO MASTER



www.singingrock.com

FELCO 290 POLE PRUNER

This is a little unusual as an arborist tool but, take it from us this thing is excellent for cleaning up and reaching those pesky, teeny branch ends that usually make you decide to bring the cut inboard more than you told the customer you would. Your first choice these days is probably a battery powered pole-saw but for fiddly little jobs and last minute cuts that you missed, manual pole pruners are always worth having in your arsenal. We have used standard telescopic pruners since Napoleonic times, not us personally, but humans in general and they really haven't changed a great deal other than the cord now being a tough nylon/polyester or even Aramid and the pole being lightweight alloy or carbon-fibre rather than wood or painted steel.

We have a rusting collection of these things dating from the 70's and our current favourite is the *Darlac Expert* (below) which has a very smooth action and pole extension thanks to contoured aluminium-oval poles and a geared head plus 3:1 pulley system but it, along with most similar pole pruners, is a quite bulky and complex arrangement. It is externally rigged with intermediate cord clips to keep things tidy and the pulley (mechanical advantage) at the head is decent. Darlac has 3 or 4.9m 3-stage telescoping poles with our 3m setup costing around £100 and weighing 3.3kg/7.4lbs. It's been excellent and we've seen it as a great value and versatile alternative to our chainsaw pole-saws. This *Felco 290* however, is a very much more compact and neat package.



CONSTRUCTION

The aluminium pole on the *Darlac* and the *Felco* are quite similar - both are a contoured oval cross section with a ridge running the length that guides the top section cleanly into the bottom section. Otherwise, the *Felco 290* is a slightly different animal to the *Darlac* and other, traditional extending pole, pull-cord pruners because it doesn't have a saw option and is very clean at the head without all the extraneous workings that we usually see. It's closest rival would be the *Fiskars Power Gear* which also has the articulating head and 'power-handle' arrangement of this *Felco 290*. This is a two stage telescoping handle lopper so it's shorter but lighter than regular pole-pruners and differs visually in that the cord is either recessed on the bottom pole or disappears inside on the top pole a foot or so from the head - no cord on the outside to get caught up and no external mechanical advantage. The head is operated by pulling down on a sleeve-style handle (pic left) at the top of the first pole. You slide this down the pole while holding the sleeve at the bottom of the pole and the head does its cutting stuff. You can also pull down of the loop of cord that emanates from the bottom if you want more reach.

The pole extends by releasing the red lever and pulling up until you see a red over-extension warning. The head is a particularly useful feature, not because it's necessarily any sharper or better made than the others (although it is carbon-fibre and *Felco* carbon steel so you do have some of the finest Swiss horticultural engineering in play) but because it will rotate into a locked position from 60 degrees to 110 degrees. Above and opposite you can see the maximum rotated positions left and right. This is a lot more useful than might initially appear. When you're trimming branches from the ground you are generally



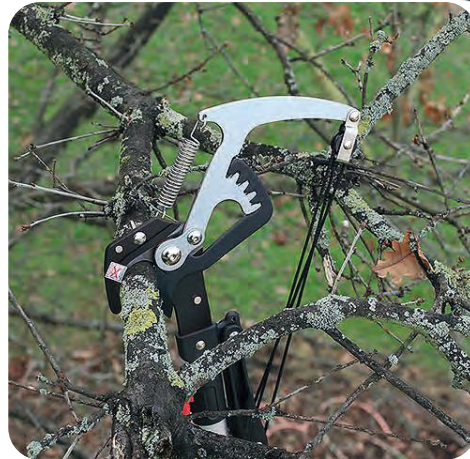
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Felco 290 Pole Pruner

be making a very shallow 'spear-head' style cut instead of a gentle 10 degree incline at a node/bud.

IN ACTION

It's an aluminium pole so don't even think about trimming near power lines/ conductors especially in the wet when arcing could occur.



approaching from around 90 degrees to the branch give or take 10 degrees, so the fixed, in-line heads are the right cutting position but if you are chasing a vertically growing runner or you are in the tree canopy and the branch is snaking out ahead of you, it's hard to get a standard pole-cutter into the right position, you would, at best,

It's magic! It has less mechanical advantage than normal geared pruners but it feels just as easy. That's because you can apply much more directional force with a hand-grip that is running on a 'track' down the main pole and pulling towards your other hand fixed on the bottom handle than you can yanking down on a thin piece of cord even if you put a T-handle on it. Think of it like one of those old *Bullworker* chest muscle builders and the force you can apply to one of them. This and the rotating head are key features but equally noticeable is how neat it all is - how you can manoeuvre it into spaces without getting caught up because the head is so compact.

Take a look at the *Darlac* in action on the left and see if you can spot what could cause you to be cursing and swearing before, during and after performing this cut..... snag-hazards.



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The clean head of the 290 with no exposed cord and pulley systems will fit into the smallest gaps without dragging everything with it. And once positioned making the cut is similarly clean by pulling on that red sliding grip. But only if the cut is in easy reach. This isn't the longest pole pruner so we often found that, for greater reach, we would initiate the cut using the cord loop with our hand part way up the pole to meet the sleeve-handle as it came down and then finish the cut with that. When using the sleeve you can grab the branch in the jaws and then push on a lock (black button on red handle) which holds it in that position until you're ready to complete the cut, either because you want to adjust your position if you're in the tree, or to switch to using the cord loop or simply because you

WHAT Artificial intelligence has to say....

One of our researchers cheated on his homework and came up with this 'review' from ChatGPT, it's a bit light on personal experience and comparative analysis but marketing copywriters might need to watch their backs?

The Felco 290 Long Pruner is a high-quality, professional-grade tool designed for pruning tasks in gardening and landscaping. It is particularly well-suited for reaching higher branches or working in dense foliage. Here's a detailed description of its features:

Specifications:

Weight: 1270 grams (approx 2.8lbs)

Length: 1680 mm (1.68m (approx 5.5')

FEATURES:

Length and Reach:

The 1680 mm (1.68 meters) length of the Felco 290 provides an impressive reach, allowing you to cut branches that are high up without needing a ladder. This extended reach is particularly useful for tree pruning, hedge trimming, or maintaining tall plants in gardens or orchards. The long handle ensures better leverage and increased power when cutting through thicker branches, reducing the physical strain on the user.

Weight and Balance:

Weighing at 1270 grams, the pruner strikes a balance between sturdiness and ease of use. Despite its long length, the weight is manageable for prolonged use. The pruner is designed to minimize fatigue, making it suitable for extended sessions of pruning or cutting. The handle is ergonomically designed, ensuring a comfortable grip to reduce strain on the hands, even during extended use.

Cutting Mechanism:

The Felco 290 features a powerful cutting mechanism, perfect for tackling tough branches with ease. It utilizes a cutting head that is engineered for precise and clean cuts, reducing damage to plants and trees. It's designed for cutting branches of varying thickness, making it versatile for different pruning tasks.

Durability:

As with all Felco tools, the 290 Long Pruner is crafted from high-quality materials such as hardened steel for the blade and durable aluminum for the handles. This ensures the tool remains durable and maintains its sharpness even with heavy usage over time. The pruner is resistant to corrosion, ensuring longevity and performance even in adverse weather conditions.

Adjustable and Comfortable Handles:

The handles of the Felco 290 are designed for comfort and ease of use, even with extended reach. The pruner features rubber-coated grips, ensuring a firm and non-slip hold, which is crucial for both safety and accuracy during cutting. The design of the handles also allows users to maintain a natural arm and wrist position, reducing strain during use.

Ease of Maintenance:

The pruner is designed for easy maintenance, with replaceable parts, allowing users to swap out worn-out components (such as the blade) to prolong the tool's life. Additionally, its design ensures that it can be cleaned and serviced with minimal effort, helping to maintain optimal cutting performance.

Ideal Use:

The Felco 290 Long Pruner is particularly suited for professional gardeners, landscapers, and tree care specialists who need to prune tall trees or thick shrubs regularly. Its reach and power make it ideal for orchard maintenance, vineyard care, and general landscaping tasks that involve cutting branches in elevated or hard-to-reach locations. Its ergonomic design makes it suitable for long hours of use without causing significant hand or wrist fatigue.

In conclusion, the Felco 290 Long Pruner is a highly functional and durable tool designed for efficient and comfortable pruning. Its lightweight construction, combined with its extended reach, makes it a must-have tool for anyone needing to prune high branches or dense foliage. Whether you are a professional or a dedicated gardening enthusiast, this pruner's design ensures precision, comfort, and long-term performance.



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GEAR REVIEW

want to grasp and bend or pull the 'captured' end rather than cut it.

Being able to rotate the head downwards/upwards gives you excellent accuracy of cut when you are in-line with the direction of the branch - something you don't get with fixed heads. It is easily adjusted by releasing the red lever and ratcheting the head into position before securing the lever again and you have over 180 degrees of adjustment with a more acute, in fact negative, angle on one side than the other.

Two downsides cropped up during use. The first concerns using using the pole at maximum extension so that the top red handle is out of reach. For vertical cuts straight above you, you can hold the bottom handle at arms length and pull on the cord loop that exits the bottom of the pole thus getting around 9.5ft of functional distance. But in that mode the red handle never comes within reach so you perform the cut with the cord-only just as you do with most other pole-pruners. If you have to dress the cut at an angle - good luck holding the full 1.3kg/2.8lb weight of the pole at arm's length at anything greater than about 15 degrees. You notice this because the key feature of this pruner (apart from the pivoting head) is the ease with which you can cut when sliding that top-handle down rather than pulling the cord. Generally on those long-reach cuts, you will hold the lower pole part way up with one hand while your other hand pulls the cord to activate the cutter head. After several uses you get used to the red handle barrelling down towards your hand and learn to grab it with your thumb and index finger allowing your other hand to release the cord and grab the bottom handle while you shuffle that top hand to fully

BRAND	ARS	DARLAC	FELCO
MODEL	K-6770-A	DP1563	290
Weight	2.8kg/ 6.2lb	3.325kg/7.3lb	1.27kg/2.8lb
Pole Material	Alu	Alu	Alu
Max Length	3.3m (or5.5m) 10.8' (or 18')	3.4m (or5.3m) 11.1' (or 17.4')	2.67m 8.75'
Min Length	1.8m/ 5.9'	1.75m/5.7'	1.68m/5.5'
Cutter Type	Bypass	Bypass (or Anvil)	Bypass
Mech Advantage	3:1 + 3:1 gear	3:1 + 3:1 gear	2:1
Saw	Yes	Yes	No
Cutting Diam	50mm/2"	30mm/1.1"	35mm/1.4"
Adjust Head	NO	NO	90°
Mechanism	Cord/T-handle	Cord/T-handle	Cord or 'pull-sleeve
Cost £GBP	£240	£102	£200
Cost US\$	\$320	\$135	\$275
Cost €Euro	€280	€110	€190

grasp the top red handle and pull down to complete the cut. It's less complicated than it sounds.

The only other issue was when using the cutting head in amongst a congestion of vegetation or twigs. We made about three thousand cuts in several square yards of wildly overgrown Mile-a-Minute vine (*Fallopia baldschuanica*) on a two-storey workshop. It was quite literally 3 or 4 feet deep in places - just a bundle of stems up to two inches in diameter because the leaf and flowers primarily sit on the outside. With the comfort and efficiency of the sliding 'throttle' handle the cutting head made



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all cuts easily - even the ancient 2" stems. But it did, on occasion, get jammed closed by twigs breaking off within the mechanism. Where the enclosed cord meets the cutting head there is a half inch (1cm) square gap in the cog-and-lever-assembly housing and this proves too inviting to twig ends that like to jam themselves inside and snap off (yellow arrow). Luckily, this only happens if you're abusing your fine Felco 290 by thrusting it into a birds-nest of twigs and is easily unjammed by releasing the cam lever and rotating the head. The spring too is quite exposed, as these pole-cutters tend to be, but it's pretty substantial and we've never had a problem with it.

FELCO 290 POLE PRUNER

CONCLUSION

If we had to choose between this and a high quality extendible pole pruner like the *Darlac* or *ARS* with their optional saw blades the *Felco 290* would probably lose simply because it's not long enough and the saw option can occasionally be very useful. But really, that's like choosing only one chainsaw to do all the tasks you need it to do. You have several because you need options. The *Felco 290* is a very handy option. It's light with a very clean profile which can make a lot of difference to ease of working in a congested canopy, it's something you can grab and use just as easily aloft as you can on the ground without dreading the prospect of hauling a conventional pole pruner through a snag-fest.

The *Felco* and *ARS* are more expensive than most but *Felco* is Swiss and *ARS* is Japanese and both companies have solid professional pedigrees. We're not sure that this can fully explain the almost £\$100 difference in price with the *Darlac* or the remarkably similar *Fiskars Power Gear* model but both *Felco* and *ARS* have higher quality and higher capacity cutting blades just to feel better about the cost. Things that we thought would be a problem like the large, relatively exposed spring, weren't. A seemingly insignificant feature - the black 'button' on the top handle has been remarkably useful on a number of occasions - it's a temporary position-lock - you can use it to hold the jaws in a partly engaged position and grab a twig/branch to pull it clear of pull it to you for safer onward journey to the ground.

We can definitely recommend this as a useful extra tool in your arsenal.

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all photos by : Julian MAILLARD


Repairing an Umbrella Pine in Bordeaux, France



When a storm in October 2023 seriously damaged an umbrella pine in a private garden in Bordeaux, its future seemed bleak. A 60 cm crack in the trunk separated two heavy sections of canopy and weakened the balance and integrity of this tree which is 8m/26.25' high and 15m/49' wide. A main branch 40cm/15.75" in diameter was leaning against a low wall, prone to collapse and further tearing of the trunk.

Faced with this situation and determined not to lose this iconic tree, the owner sought the expertise of *ArboJardin*, a specialist in remedial work. During the work, the expertise of Julien Maillard, from the company *Hévée Sud-Ouest*, was also put to good use. Together, they used innovative techniques combining stabilization and consolidation to avoid felling or further disfigurement and to preserve the tree.

of more tearing and more damage to the wall. However, the significant weight of this branch required a more robust and permanent solution.



Also called the Japanese Umbrella Pine or Parasol Pine/Fir, *Sciadopitys verticillata* is an unusual 'ornamental' in Europe and especially in this spreading form where the triple leaders has been the cause of its problem here. The normal single leader creates a more familiar, tall, pyramidal shape. It is slow growing compared to most pines, ultimately reaching around 20m/65ft in ideal conditions, so a specimen of this size and vigour was well worth the investment in remedial 'surgery'. It grows best in full sun and with good humidity levels so it is well suited to France's Atlantic coastal fringes.

THE PRIORITY: TEMPORARY STABILIZATION

The first step was to prevent the crack from getting worse and stabilize the fallen branch. Rapid intervention was necessary to protect the neighbouring wall and prevent the branch from exerting additional pressure on the already weakened trunk. *ArboJardin* installed a temporary pulley system (pic left) directly at the top of the tree incorporating a Petzl Traxion progress capture device. The PCD and pulley system made it possible to temporarily hold most of the weight of the branch, thus limiting tension on the trunk and the risk



A TECHNICAL SITE, WITH NO ACCESS TO HEAVY MACHINERY

As the garden did not allow easy access to mechanical lifting machinery, it was necessary to opt for smaller, sophisticated manual tools. The team used the *Transformeur*, a device developed by French manufacturer *FTC TREE*. This modular tool utilises a heavy duty lowering or friction bollard together with a manually operated capstan winch, specially designed for high loads but offering a delicate solution with high-power and a consistent but gradual increase in load-holding.

Equipped with one of a possible two mini-cylinders, the *Trasformeur* was ratchet-strapped into position on the trunk and an ISC Impact block rigged as a redirect a few metres above it. It was possible to pull the split branch back into position slowly and with precision without risking further damage to the tree or its immediate environment.



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SUSTAINABLE CONSOLIDATION THANKS TO GUYING

With the two halves properly aligned, the intervention continued with the structural and more permanent reinforcement of the tree. *ArboJardin* used the method of guying with drilling, a technique which, although more invasive, had proven particularly effective in similar situations. In critical situations like this it is best to go with what you know will work and what you are most familiar with. Wire guys in this situation can be quite visually intrusive but they ensured the integrity of the tree during ongoing storms and having survived those the owner has the option of having a more camouflaged and perhaps more strategically placed lighter wires installed.

An initial hole was drilled at the base of the cracked trunk. 24mm/<1" diameter galvanized steel threaded rods were inserted into the main load-bearing sections of the split branch and to two main branches on the trunk. This rod, equipped with an eye on one end and a nut on the other, ensures a robust attachment while allowing the addition of a cable for added security. Above that eye, two static guy lines were installed in a triangular configuration. These 10mm/0.4" diameter steel cables, each capable of supporting up to 10 metric tons (11.2 US short tons), were secured in place once the limb had been winched back into its original position. The reconnected branch was cabled to the two eyes above it on the two main branches to ensure optimal stability for the entire tree. The weeks following the intervention confirmed the effectiveness of these measures. Storm Domingos, which occurred shortly afterward, caused no additional damage, attesting to the robustness of the installation.

On the right is the *FTC Transformer* installed with the main rope running up to the redirect. As the winch handle is turned, progress is slow enough to allow ground crew to assist and support the lateral branches on the main limb being lifted to ensure that there was no further damage to the wall through



The top system with the blue/black rope is the main hauling system running from the *Transformeur* below through the blue-cheeked/green sheaved ISC impact block to the split branch below. The pulley system with the yellow rope is the original 'first-attack' pulley system installed as a fast support to prevent further splitting while further remedial action was considered. Below both of those systems is a drilled load support to which bracing cable will be attached.







EQUIPMENT USED

- On-site components stabilisation Pulley System using **Petzl Traxion** as a PCD and **DMM Pinto** as a redirect.
- **FTC Transformer** Raising/lowering device
- Heavy Duty Redirect using **ISC Medium Impact Pulley** and previous version of **FTC Eclipse rigging pulley**
- Carpenter's drill with 24 mm wood bit
- Battery powered crimper for swages on wire cables

DURATION of JOB

- 1 day with 3 people

twisting which might also misalign the two halves as they come together. Had this been a much larger tree, it may have required coordination of the main *Transformer* raising system with additional lateral pulley systems to keep the partial canopy level and take some of the weight. The top mini bollard shown in the picture on the previous page, is for lowering but can occasionally be used for the tail of the haul rope if you are 'flying' with fewer wraps on the capstan itself and need more friction/holding ability straight away.

....et Voila

..... The finished tree with the split barely noticeable. The union will further 'heal' as the tree recovers and forms a callus along the length of the split with surface bark spreading across the narrow gap.



rock

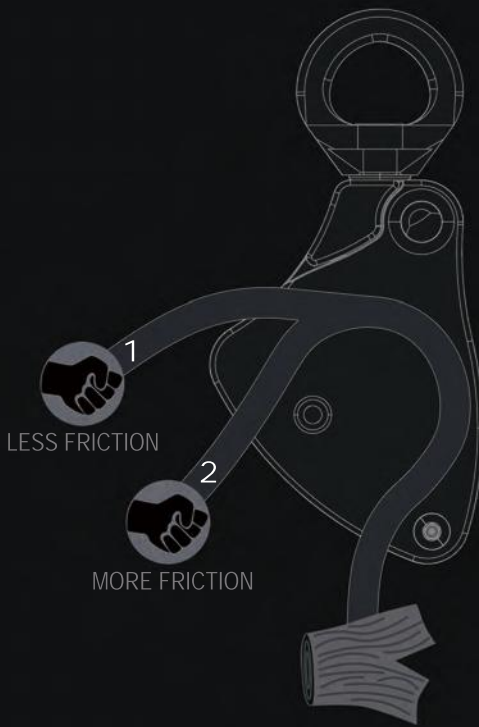
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Extremophilia

The Redwood Brigade
Eureka, California

by **Fred Haeefe**

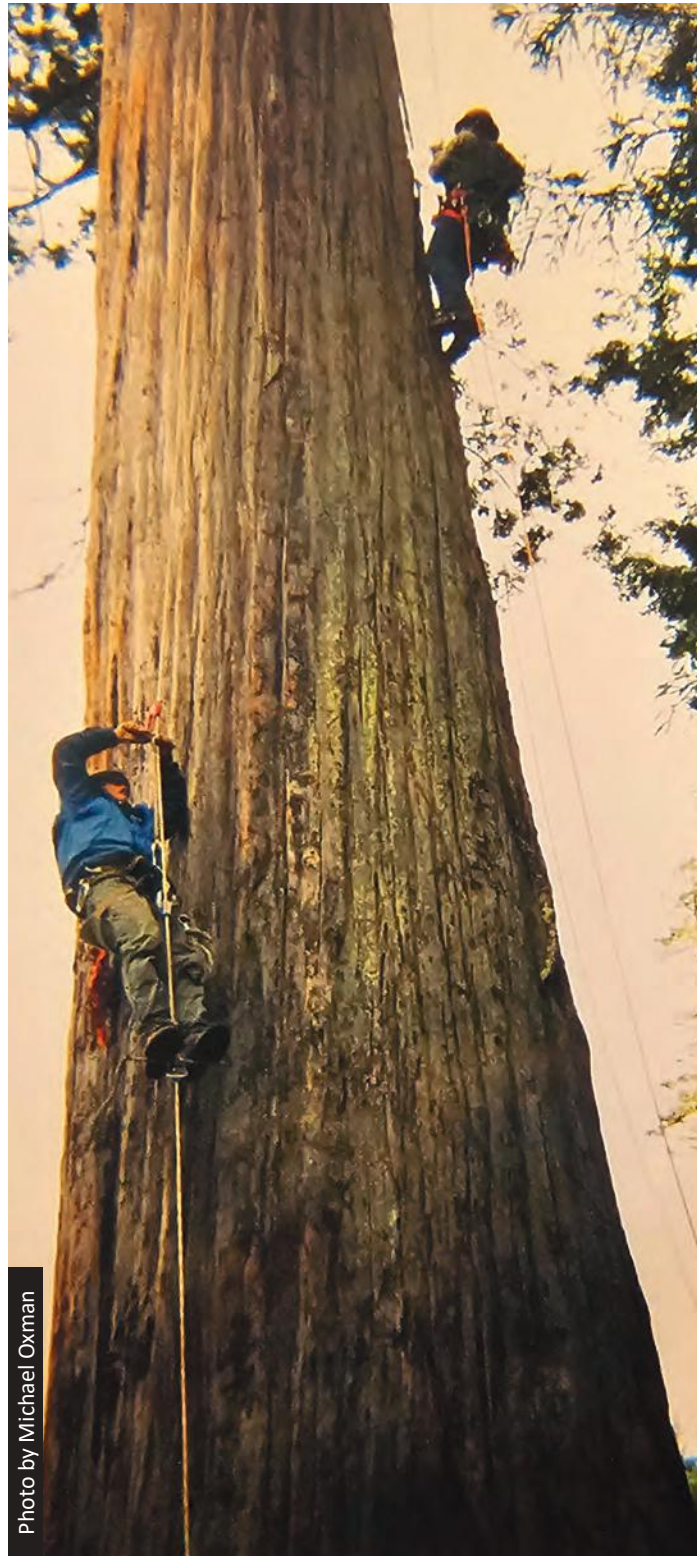


Photo by Michael Oxman

Michael 'Ox' Oxman: Something of a role-reversal this issue as Ox relays his interview by Fred in 2006 for an article on the redwood felling protests that continue to this day. Excerpt used by permission from the book "Extremophilia" (2011) by Fred Haeefe, publisher: Bangtail Press

Ox is a resident of Washington state, USA, and a career arborist who began climbing on manila rope, right out of high school in 1970. Also a keen recreational climber, he now lectures on tree subjects at conferences, produces videos & is a content creator on social media platforms.

On a sodden, fog-clotted North Coast morning, a trio of hard-hatted tree-climbers rappelled leisurely down the trunk of a two-hundred foot redwood older than Christianity. Their goal was to evict a slender, spectacled young tree-sitter known as "Remedy." For team leader Eric Schatz, a Eureka native, it was the shakedown test of America's first professional tree-sitter extraction team.

For Remedy, twenty-six, of Mount Pleasant, Michigan the eviction would prevent the celebration of her first anniversary aboard the thirteen-feet-in-diameter giant the tree-sitters call "Jerry."

A hundred or so feet below Remedy's four-by-eight foot, tarpaulin-covered redoubt was a mélange of fifteen Humboldt County sheriffs, seven correctional staff, four highway patrolmen, numerous security employees of Pacific Lumber Company (known as PalCo, owners of the tree), various press crews, and a kind of intersectorian mix of environmental activists calling themselves, the "Forest Defenders."

Had they been privy to the conversation above them, they would have heard what, according to both extractor and extractee, was a philosophical debate of near surreal rectitude.

Schatz: "Good morning, Remedy. Hey--while I greatly admire your principals and determination to protect this tree, it's my duty to inform you that this is private property and you're trespassing."

Remedy: "Good morning, Climber Eric. While I appreciate

your coming all the way up to apprise me of this, in good conscience I can't abandon this ancient being to PalCo's cavalier and non-sustainable harvest policies.....or something like that....."

After a couple hour's discussion, Remedy at last slipped her hands into her "lock box" (a homemade manacle chained around Jerry's trunk) and proceeded to take herself hostage. The extraction team then hauled a fifty-pound compressed-air powered grinder up on a rope. As the grinder ground and Remedy's manacles heated up, Schatz stood by, cooled her arms with Perrier. Hours later, the manacle severed, the climbers handcuffed Remedy with plastic ties, strapped her into an evacuation harness. Schatz lifted her in his arms and the two were lowered gently to the ground on half-inch, sixteen-strand braided nylon rope. According to at least one witness, they cut a dashing figure.

To PalCo's way of thinking, this engagement was probably a smashing success--just the type of orderly, pro forma extraction (or "rescue," as PalCO describes them) the embattled company had hoped for.

On the other hand, the Forest Defenders were bummed. By the time Remedy and Wren, another sitter, were brought down and packed in a sheriff's car, the activists attempted to block the road, and a baton-and-pepper-spray fracas erupted. It lasted ten minutes, resulted in several arrests. When I spoke with Remedy a few days later, her anniversary spoiled, she reported glumly that she was treated well enough "up there."

"So they weren't goons or anything, the PalCo guys?"

"No, they were very smooth. And Eric--well, he'll charm the pants right off you."

"Does that mean he was gentlemanly?"

"Oh, extremely so. Outwardly. But inwardly? Inwardly, he's sick."

Freshwater, a steep, heavily-logged drainage about three miles north of Eureka, has for nearly a decade been an epicenter in the fight to save Humboldt County's remaining old growth trees. The acreage, thanks to the Greenwood Heights Road, is easily accessible to loggers, activists, and media alike, resulting in an on-going melodrama in which both trees and sitters have taken starring roles. (For the most part in this production, PalCo has played the villain.)

At first just an annoyance, the un-harvested redwoods the sitters occupy has become an increasing source of frustration to the financially strapped company. Until recently, they could do little about it. Then, in early March, the company got a restraining order from a federal judge allowing them to physically remove the tree sitters.

This was far easier said than done. That's when they turned to Schatz, a local arborist.

One of maybe a dozen old growth specialists in the country, Schatz climbs these giants routinely to prune away deadwood or storm damage. Or he may rig and remove tons of rotted treetop hanging over a million dollar home. All these operations he will perform without ruffling a shingle, harming the tree, or fracturing his skull.

Schatz's been doing this for thirty-one years, a span of time over which he estimates he's climbed one hundred thousand vertical feet, or well beyond the stratosphere. Part of his skill as a big tree climber is to take something that appears insanely hazardous, make it seem a perfectly reasonable, even quotidian thing to do.

It isn't.

Professionals at Schatz's level have long understood that macho has no place in their world. Their survival depends on cool, not daring; caution, not swagger. These were exactly the intangibles he looked for when he first formed his team.

To qualify, team members needed a minimum of ten years' old growth experience, plus extensive training in alpine rescue, non-violent problem solving, and crowd psychology. For starters.

On a rainy Friday night, I met Schatz and an E-team climber called Ox at a Eureka coffee shop. They were cordial but extremely wary. They told me, point blank, they didn't trust the press. To make matters worse, an activist called "Tree" threw himself under Schatz' Suburban on his way over to meet with me, Schatz barely avoided running him over.

I stirred my coffee. "Are you guys still rattled?" The two exchanged glances. Schatz is wiry, compact, a youthful forty-six year old with a Guardsman's moustache. Ox is tall and powerfully built, a soft spoken, fifty-year- old grandfather.

"More and more," Ox reflected, "'rattled' is a way of life around here."

Here's how Schatz's operation works:

The E-team (as they call themselves) totals six climbers, which they try to work three to a tree. Their ground support group--belayers, suppliers and such--might include another half dozen, plus whatever law enforcement seems appropriate.

In theory, the team will stay operational until the situation is resolved. They do not rely heavily on stealth.

Because of sophisticated activist technology (cell phones, computers, walkie-talkies), the size of the entourage, and because rigging a big tree ascent takes time, the element of surprise is pretty much eliminated.

"Hell," Schatz told me. They not only know exactly when we're coming, they know us all by name!"

Photo of Mystique (white jacket at top) by Michael Oxman holding the camera at about the 210' level (about 40' from the top) looking straight up. The 3 of us Extraction Team members were in support of Eric & the treesitter, ready to attach lowering gear for safe delivery of the bound package to the law enforcement people waiting on the ground at the base of the tree.



At the occupied tree, the E-Team uses a crossbow to shoot a monofilament line through a crotch one hundred feet up. With this, they haul up a climbing rope, rig it for single line ascent, then one by one, head up into the canopy.

"Every tree's different," says Schatz. "We try to avoid coming up under the sitter's platforms, but lots of times we can't. And when that happens, well, that's always dicey. They say they're non-violent, but...let's just say, some take the idea more seriously than others."

In truth, never is the E-team more vulnerable than at this point, and their safe ascent depends entirely on a kind of gentlemen's agreement with the sitters that all encounters will be non-violent.

Seeking the high ground, E-teamers climb to a point well above the activists. They pick a staging area, belay themselves, and set their evacuation rigging--usually a pair of three-hundred-foot descent lines run through alloy pulleys and anchored to a belaying device.

Then, like an aerial boarding party, the team rappels to the sitter's bivouac below where the first order of business is a kind of on-the-spot evaluation: Does the sitter pose a physical threat? Is the sitter hypothermic? Stoned? Malnourished? Rational?

While Schatz and Ox talked easily about procedure, technique, and equipment, and while they were justifiably proud of their safety record to date, they talked less easily about the activists and their modus operandi. These were described in tense, sobering dispatches: marginal clothing, low-protein diets in cold, wet weather. Limited climbing skills, lots of dope, and most ominously, lots of makeshift safety gear. Since 1998, two sitters had died from questionable belays, another was severely injured.

But most troubling to the team is that they never know how a sitter will react to their presence--that is, how far he or she might go to make a stand. One young woman stripped naked when the team arrived. They waited till the cold weather forced her to dress.

Schatz recounts, unprintably, the time another sitter doused him with a water bucket.

Things, in the E-team's view, keep escalating. A few days after my visit, Schatz called to tell me a contingent from *Earth Liberation Front* made an impromptu visit to his home where they informed Schatz, cryptically, that whatever he did to the tree sitters, they were prepared to do to him.

Then there was "Phoenix," who slipped past security, made his way into the outer branches of one tree, and free-climbed over one hundred feet straight up right past the E-Team, already landed on the sitter's platform.



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"He was headed for our belays when I tackled him," said Schatz. "Ox and I wrestled him down and sat on him, at which point the kid went mental. He said he was suicidal. He shook us off, made a dive for the edge of the platform, got halfway off before we could grab his leg and stop him. You can't tell me that guy wasn't smoking something--the way he fought us? And that was after climbing a hundred feet straight up!"

In the course of our conversation, I avoided asking Schatz and Ox any kind of Big Question. In truth, I was far less interested in their views on old growth harvest than I was in the climbing/rescue skills that allow the safe extraction of an unwilling tree sitter from a two-hundred-foot tree. Still, by evening's end, the two remained sober and wary. As if the interview was a kind of sucker punch waiting to happen.

Before I left Eureka, I was invited by Remedy and the *Forest Defenders* to view the video they'd made of a March 19 E-Team operation. I was received hospitably by them at their Freshwater digs, where I sprawled on the living room floor to watch it amid a welter of dogs, tea-mugs, and amped-up activists.

Leaving aside all the oft-expressed, fervently-held opinions of both sides in this consuming and fulminatory environmental debate, if you chose to view Remedy's extraction as a model of big tree decorum (as I did), the operation revealed by the Forest Defender's footage was significantly messier, vastly more frightening.

A new sitter, "Mystique," re-occupied Remedy's old tree, and the footage opened with her one hundred feet above the old bivouac, bear-hugging the tree's ten-inch top, apparently un-belayed. We then cut to Schatz, working his way up from below.

Depending on who you listen to, he has either provoked a game of Redwood chicken, or Mystique has blundered into a jam of her own making and Schatz is performing a rescue.

Though the crowd below is raucous--hazing Schatz, shouting encouragement to Mystique--the canopy drama is unmixed, silent. The video is overexposed, so the climbers are in silhouette, like puppets in Balinese shadow play.

Schatz draws close to Mystique's perch and stops. The two seem to talk.

Then the crowd goes silent. Mystique, fresh out of vertical, veers abruptly to the horizontal, edges her way out a branch the diameter of a baseball. She shuffles a couple feet then freezes.

Schatz speaks to her. Whatever he says, it has the wrong effect, and he watches helplessly while Mystique, in the name of protection, tosses an anemic, prusik cord over a remarkably unsubstantial looking sucker, hangs onto it like a subway strap while she edges straight for the void. A bad move in any

tree, and at two-hundred feet, it's the worst you can make. Schatz climbs level with Mystique, belays himself with his lanyard. They talk briefly.

Something gives way and Mystique pitches forward, grabs a handful of redwood twigs to stop her fall.

Now the crowd comes alive. They badmouth Schatz, tell Mystique they love her, that the trees love her too. "Be strong," they tell her, "be strong!" There's swearing, weeping, imprecations. Someone calls 911.

Except for some random ululation, it sounds quite a bit like Saturday Night Wrestling. Yet the pair up the tree is breathtaking; like spirits cast in shadow. Anything can happen now.

Two hundred feet above the forest floor with no place left to go, their conversation looks feverish, strangely intimate.

According to Schatz, it went like this: "Listen to me. We're in a bad spot. You go out further, it's pure suicide. You're a tough cookie, an awesome climber, and now everyone knows it. You've got nothing left to prove."

According to Mystique, it was like this: "Hey. You fall out of this tree now, neither me or my crew's responsible. We'll testify it was suicide, plain and simple."

Oddly enough, both parties agree on what happens next:

Schatz doffs his safety glasses. He's crying.

"Listen," he says "I'm really afraid right now. I don't want to die today and I don't want you to die, either. Please. Help me get us out of this mess."

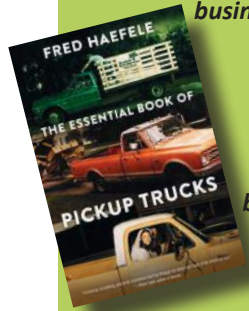
Mystique, crying too, agrees, allows Schatz to loop a lanyard around her and gently pull her in.

Back on earth, the arboreal rapprochement disappears like vapor: Mystique claims she was struck in the mouth by a carabineer during her evacuation; that a petulant E-Team lowered her to the ground "by my chest."

Before I packed to leave, I spoke to Andrew Edwards, reporter for the North Coast Journal, a local weekly. He was convinced that the climbers and sitters had a pretty good rapport. He said he'd seen them joke around, try to recruit each other, share *Powerade* and climbing lore. In the trees, things seemed to work, he said. "It's the crowd on the ground that's weird... that's where things go sour".

It reminded me of something Remedy said when I asked her what it was like back on terra-firma after a year in the tree. She shook her head, smiled vaguely. "It's amazing how good it smells up there," she said. "And how much the ground stinks."

Fred's new book is a story about 12 pickups owned & loved by an arborist during the 45-year journey of a life in the tree business. Available from May, 2025.



OX's REVIEW of:
**The essential book
of pickup trucks**

by Fred Haeefe. Published by Bison Press, University of Nebraska. Available on Amazon.

"While Pickups is ostensibly a book all about a man's relationship as owner of the trucks, it is nevertheless a panorama book about one guy's fifty year relationship to a unique, demanding and, as we all know, often misunderstood and fabulously quirky profession.

I wonder how many tree surgeons share a fixation on their pickup truck? The 'Essential' part of the new mémoire by arborist Fred Haeefe is that the truck identifies the driver as a 'working man'. The book follows a sequence of events in successive ownership of a dozen pickups over the course of his half-century journey climbing and caring for trees. The author's lifelong quest is to become an intellectual writer, able to 'decide' his life's course. He wants his writings to be accepted, based on his background of understanding the meaning of true dedication to hard work. As he hauls tools to the job and brush to the dump, the pickup trucks take him chasing lovers on cross-country trips from Boston to Alaska. During and in between these moves, while both pruning and cutting down trees, friendships are made, new loves are cultivated and children are born. Enabling this career are customers supplying money in exchange for tree surgery services wherever he goes.

When he does go back to school to acquire advanced degrees and teaching credentials, he finds a new crowd of associates who can't relate to his earlier set of outdoor living experiences. These 'phases' in his emotional and intellectual development show what maturity level Fred evolves thru during the course of ownership of each pickup truck. He tries to reconcile the need to gain acceptance from parents who cannot express love for their own son, and the eventuality that family harmony may just be an illusion.

Teaching writing classes at universities around the country are not ordinarily places where Fred needs a truck. He clings to his latest 4-wheel beast of burden wherever he is, but when circumstances dictate the need to jettison the ride, some serious soul-searching ensues. Some of the pickups succumb to an earlier hard life or need for upgrading, and are swapped out. But, always a new steed is acquired and housed in his stable, always with a quirky name descriptive of the color, body style, hauling ability or intended purpose for the truck's utility.

These are precious pet trucks, imbued with their own personality, according to their function and social status. Whether 4-wheel-drive; six or eight-cylinder; pretty or peeling paint scheme; dump bed or fleet side, these 12 trucks are brought to life over the decades by the writings of an arborist who wants to become better."



Time-lapse Redwood Climb by Robert Oxman

ROCK EXOTICA DOWNRIGGER

Lowering Device

by Adam Jones

Following on from our doomed experiment with AI in the earlier *Felco* review, Mr Albert I-stein has this to say... *The Rock Exotica DownRigger is an innovative aerial friction device designed to enhance efficiency and control in lowering tree limbs during rigging operations. Its lightweight and compact design allows for versatile use, either overhead or at the base of the rigging system. When the device is loaded, it applies friction to the rigging line, enabling the operator to manage the descent manually. Once the load is unweighted, the line can be easily pulled back through the device to reset the system.*



"Load Control so precise, my groundie used his thumb and fore-finger to lower a lump as heavy as his own body" (or words to that effect)

We are long-time users of the *Rock Exotica Omni-Block* pulleys so there's something very familiar about the *DownRigger* in both appearance and function, painting it blue just ensures you don't grab an *OmniBlock* by mistake and complain bitterly about the lack of friction. The actual function of the *Downrigger* has been adequately covered by Mr AI in that opening paragraph which it probably nicked from *Rock Exotica's* website anyway but the gist of it is that it allows the ground crew to manage the controlled descent of larger branches or moderately sized timber sections up to 3metric tonnes but in reality with a 10:1 safety margin this equates to a Safe Working Load of 1.33kN or 135kg/300lb This

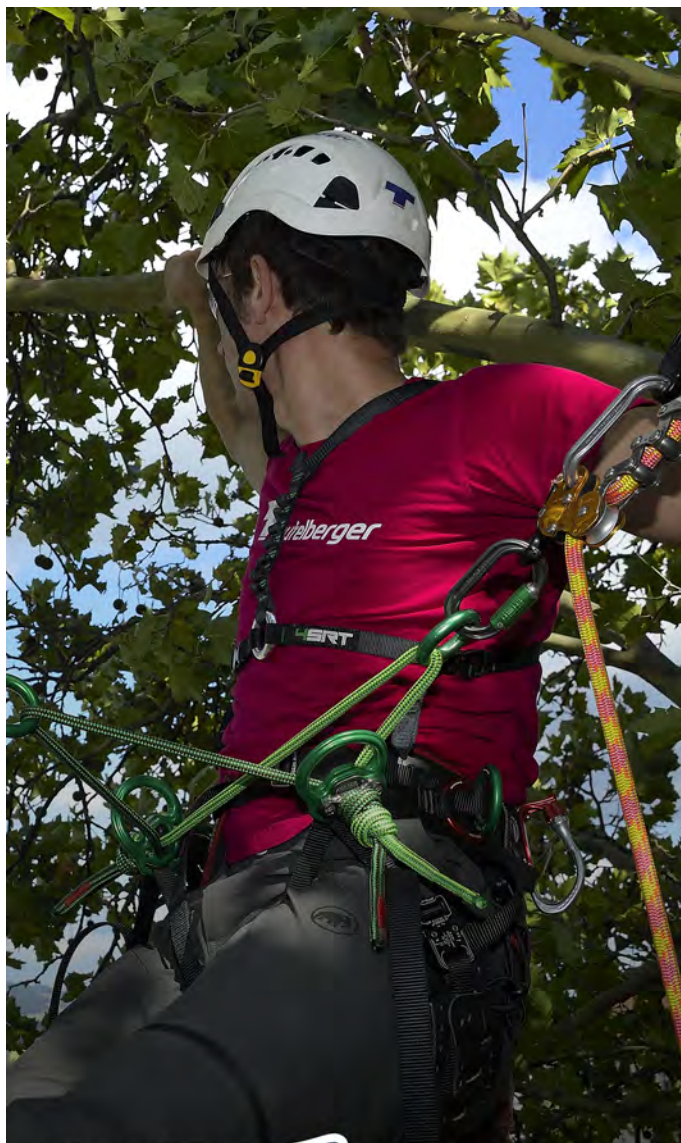
is about the same weight as your grunniest ground worker, the one that always turns up late with a pie hanging out of his face. So if that branch/section looks heavier than him, be a bit careful. This means you're going to be more than happy using the *Downrigger* on pretty much any domestic job involving silver birch, Sycamore/Maple, and smaller softwoods but not dense heavyweights like eucalyptus.

The *DownRigger* is a fair old lump in the hand but it weighs the same as old-fashioned bag of sugar (at least in Britain) without the bulk, look how streamlined those curves are, as with the *OmniBlocks*, it's hewn out of a block of alloy like a



Leonardo DaVinci sculpture in blue. It has the same heavy-duty swivel and 2-stage locking front-pivoting plate to ensure you don't accidentally open the plate during use and is designed to handle ropes ranging from 12.5mm to 14mm (1/2 inch to 9/16 inch) in diameter.

The first feature of note is the enormous top swivel, obviously the same as the Omniblock so you can't say it's not a tried and tested component (although we did break one once trying out some negative rigging- don't tell *Rock Exotica*). The swivel ensures automatic alignment with the load to ensure you're not using more force than is necessary dragging your rope over the *Downrigger's* edges, curved though they are. The double-locking side plate allows midline attachment and rope installation. The device's pivoting asymmetric friction bollard, approximately 2"/50mm wide provides a favourable bend radius for the rope.....not quite the magical 4"/100mm but the *Downrigger* would need to be twice the size and weight to achieve that. (To be precise we measured ours at 44.58mm for the tread and 50.58mm to the outer radius.) 50mm is good enough to provide quite precise control of heavy loads, in fact my groundie was able to lower a lump the weight of his own faddass using just his thumb and forefinger. That's slick but there could well be the tendency to think that such an easy manipulation of a heavy load means that you can increase the load....it doesn't...it's always best to assume that the next kilo



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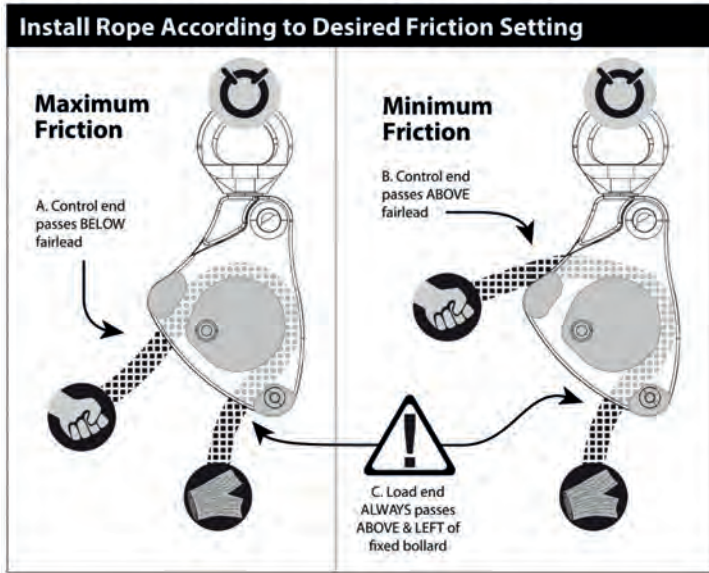
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ROCK EXOTICA DOWNRIGGER



through the device, allowing for very smooth rope resets. Rope twists will not be an issue either, the flow through the device is in-line so applies no torsional or twisting effect, making long range rope management easy even when stood well clear of the danger/drop zone.

Safety is a critical aspect of the *DownRigger's* design. The double-locking side plate provides both visual and auditory confirmation when secured, ensuring the installed rope is

- DownRigger Rules**
- 1) No negative rigging
 - 2) No loads higher than your heaviest ground crew

or pound of weight that you add is the straw that breaks the camels back.

There are two friction options when setting up, which will alter the amount of imparted friction when under load. Tailing the rope out either above (less friction) or below (more friction) the fairlead on the main body will allow for this presetting choice. Movement of the bollard is controlled by a reasonable powerful internal spring, so little resistance is applied to rope when reduced load is applied, the rope can be easily pulled back

properly contained before operation. The swivel top not only aids in load alignment but also reduces potential torsional stress on the device and rope, minimizing the risk of equipment failure. The powers-that-be would probably like us to mention at this point that...*users should adhere to the specified rope sizes and load limits to maintain optimal performance and safety standards.*

The load limits are really important to be mindful of, not that you should need reminding but you may hav that overwhelming



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urge to see just how far you can push it.....don't,, it's not cheap, at around 300 quid/dollars or Euro you'll be sorry. In lay terms 1.3kN is effectively the maximum pull of an object weighing around 130kg (132.56kg, to be exact). When you get into the realms of negative rigging, a lump of timber weighing just 13kg will impart a load of 1.3kN when stopped, after dropping only 1 metre. The temptation, risk and or potential to overload this device will be high, and damage will be done. Although failure is unlikely, damage to the connector swivel will be one likely issue. Use self-control, think small and don't use this device for any negative rigging.

The limited useable rope sizing is pretty much self-policing – you can't easily fit an oversized rope in, and I'd suggest that very few arbs carry smaller rigging ropes with them (apart from the old climbing rope, which is now a rigging rope, but probably should be a retired rope?). Having noted this, we have tried 11.3mm ropes and we did find that they worked, although this was experimental and should not be considered in the workplace.

There isn't much direct competition to the DownRigger so compared to other friction devices in the arb. industry, the *DownRigger* offers a, so far, unique combination of friction device with a swivel top and double-locking side plate, features that enhance alignment and ease of use. However, its load capacity is lower than traditional impact blocks and heavy-duty rigging devices but this isn't something designed to replace those things, it's an additional tool in your armoury, in fact it's a rapid -response tool if you will, for lighter smaller jobs that don't require you to break out the strap-on winch and bollard. Additionally, while some devices accommodate a broader range of rope sizes, the *DownRigger's* specific rope compatibility ensures optimal performance only within its designated parameters but those diameters are the most common rigging rope diameters.

		AB1 DownRigger
		Approx 2"/50mm
Rope Size		1/2" - 9/16" (12.5mm - 14mm)
Strength/MBS		7000 lbf / 31 kN
WLL		300 lbf / 1.33 kN
Height		6.6" (168 mm)
Width		3.25" (83 mm)
Weight		16 oz (453 gm)

In summary, the *Rock Exotica DownRigger* is, as usual, a fantastically well-engineered tool that provides efficient and

controlled lowering for light to moderate rigging tasks in tree surgery. Its thoughtful design with smooth lines inspires confidence - maybe even over-confidence so stay within those load limits we mentioned earlier.

Our experience has been only positive, an easily transportable, simply put to work and highly efficient and effective piece of equipment..... as we pretty much expected it to be, but you can't take that for granted, even the best companies can produce a lemon every now and then but the *DownRigger* isn't one of them.



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CRAFTED FOR THE PROS**

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MBS: 42.9 kN (9644 lbf)
Core - 100% Nylon 6.6
Sheath - 100% Polyester



Eye and Eye Prusik

**BUILT FOR HIGH-LOAD
PRECISION AND EASE**

Eye MBS: 14.2 kN (3192 lbf)
Basket MBS: 27.6 kN (6204 lbf)
Technora/polyester sheath



Rope Tech Gloves

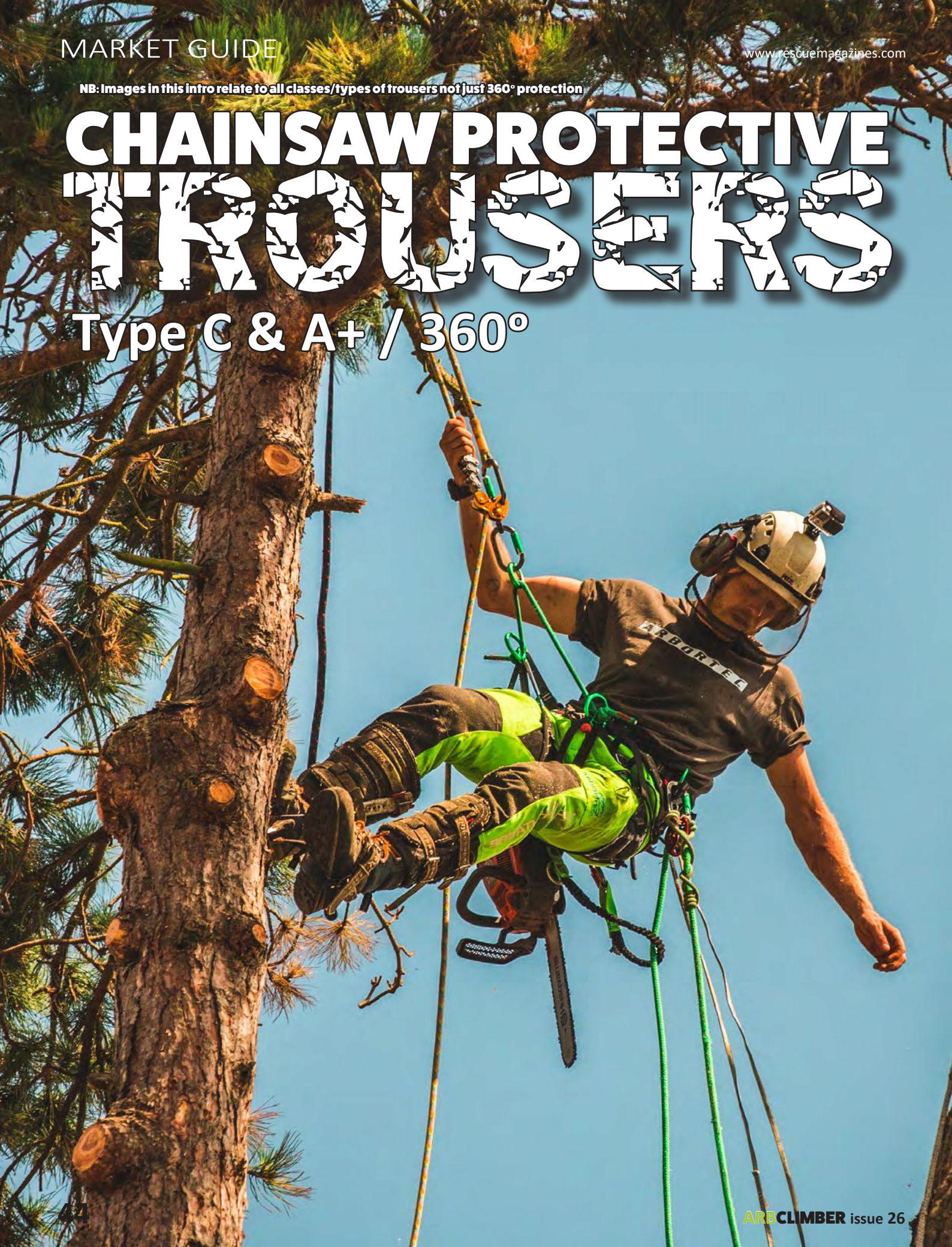
A PERFECT FIT FOR EVERY GRIP

Ultra-lightweight design: 0.221 lbs
7 sizes: XXS, XS, S, M, L, XL, XXL
Materials: synthetic leather, cowhide,
spandex

NB: Images in this intro relate to all classes/types of trousers not just 360° protection

CHAINSAW PROTECTIVE TROUSERS

Type C & A+ / 360°



Strangely, rear leg chainsaw protection is viewed differently in the UK. The UK advises additional rear protection (type C/A+) for climbing arborists while most of the rest of the world views type C as being too heavy for climbers!



Believe it or not, there was a time when the use of chainsaw protective trousers was frowned upon by climbers if not blatantly dismissed as far too restrictive in the canopy and best left to the ground crew. In the early days, we did have a point because trousers with active protection were five times heavier than regular trousers/pants, two or three times the bulk and had the stretch of a suit of armour such that, when going for that next dynamic step up, you found your knee got stuck mid-step and you had to cling on to regain your footing. These days of course, not only is it 'the law' and common sense to protect your legs when using sharp-ass cutting implements but the quality of trousers and the design in terms of stretch/mobility, ventilation and light weight are outstanding. The choice too is quite remarkable with the most prolific manufacturers: *Arbortec Forestwear, Francital, Solidur, ProfiForest and Sip Protection* producing well over two thirds of the more than 130 models we've listed in our full **Guide to**

Chainsaw Protective Trousers in our **ARBORIST**

BUYERS GUIDE. Don't forget that this not only captures all of the models on the market, and provides a real-time update to this article but, being digital-only, it is updated throughout the year with new models, price and specification changes. This ArbClimber article introduction covers all chainsaw protective trousers but the tables are concerned only with trousers offering 360° protection which, for type C, includes the rear leg and what we're calling type A+ includes the rear calf. Despite the fact that most trousers called 'Arborist' are type A only, we have limited this guide to Type C/A+ for two reasons: 1) unlike North America and Europe, rear leg protection is advised to UK arborists when using a chainsaw

Title pic: *Arbortec Breatheflex* range of trousers are available as protective and non-protective versions in the same colours so make sure you've grabbed the right pair for the job - the weight will be the give-away! As a UK company, *Arbortec* produce a great many more type C and A+ variants than European companies.

Above: Their collaboration with *Realtree* has resulted in striking colour and pattern options. The brown option should hide you from the tree police and your ground crew but we're not sure how well the lime and orange will hide you from a bear!



Below New Zealand manufacturer *Clogger*, adheres to Australian and New Zealand cut protection standards that follow the same requirements as A and C so they offer most models with the option of either type of protection including additional rear-calf - what we're calling A+ because it is not the entire rear leg. Their *Zero* range is one of many in this guide that have pockets designed for use while wearing a harness. In this picture the phone-sized pouch is zipped to restrict ingress of sawdust and debris as indeed are most pockets on most trousers - either a zip or a velcro flap cover but importantly they can be accessed when wearing the harness. *Husqvarna*, go one step further and have strategically placed protective fibres in their climber's trousers that will still pull out and clog in contact with a moving chain when others might compress and be trapped by the harness leg loops.



MARKET GUIDE



of internal injury on this one not evident by any surface bleeding!). Protective trousers are mostly from Europe providing **Type A (Front Protection) covering the front of the legs only** and suitable for ground crew and foresters but widely used by arborists and aimed more at arborists in Europe and N/ America.

Type C (360° Protection): providing all-around leg protection and suitable for all but in EU and N.America aimed at foresters and ground workers while in the UK they are aimed at climbing arborists because of the unusual cutting positions and greater chance of a chainsaw rotating onto the back of the ankle or calf. All now include stretch panels of strategically located material (including 'baggy' knees) that permit relatively unrestricted movement so, let's be honest, there are three reasons you'll choose, what you choose: 1) They're the type you've used for years and you like 'em. 2) You hate 'em and someone recommended another type. 3) You're trusting their cut-protection credentials and choosing based on the colour because you really like that Stihl and Englebert Straus have pairs that look like denim (pic above) or *Arbortec's Realtree* hunting-style camo (pics-title page). NB: All current denim trousers are Type A/front-only.

aloft and we too would steer climbers that way knowing what a chainsaw cut to the back of your leg can result in - 70ft up a tree, hanging on a rope/lanyard is no place to get a serious injury and 2) we simply could not include the 26 or so pages it took to include all trousers that we have in our **BUYERS GUIDE**.

Notwithstanding our previous warning, If you're a dynamic climber and prefer lighter, less restrictive trousers you will want to check out the A/Front-only trousers as by far the wider choice. While some, like *Arbortec*, offer most as both A and C, others consider their climber-related design with rear ventilation for light and comfort to be the key concern and concentrate on type A only. *SIP Protection* for instance has 23 models and only one of these is a Type C. *Husqvarna, Pfanner, Francital and Stihl* etc. also engineer type A models specifically for freedom of movement on rope. There are also **non-protective trousers** because you won't always be using a chainsaw or you may be climbing for inspection or competition. In these instances, non-protective specialist climbers trousers like *Clogger's Spider, ArbPro's Sigma, Arbortec's Breatheflex* range and *SIP's Gecko* are worth checking out. However, back to our protection lecture and don't forget that chainsaw protection doesn't only guard against a hit from a running chainsaw, some will improve your chances against an impale, a miscued handsaw stroke, a bear attack and even a heavy and/or point-ended branch impact which may not take a chunk out and instead leave you with a huge bruise (but beware

Gloves and boot protection is important but with a decent first aid kit these are survivable as long as you remain conscious, even if you are a lone climber in the canopy. That's also true of a leg injury but being a larger area carrying your femoral and radial arteries there is much greater scope for rapid exsanguination that can only really be controlled by application of a tourniquet - hence the need for climbers to carry a CAT in their first Aid kit.

Unlike boot protection which frequently disappointed us in its ability to prevent a moving chain from getting through to your foot, trousers are much, much more effective because they contain larger and more extensive areas of chainsaw binding material, whether that is Aramid/Kevlar, Dyneema or nylon fibres. All of the top arborist trouser manufactures produce trousers that will definitely stop a chain on runout and some will even work on full throttle remembering of course that you are generally using a smaller saw, (and these days battery with higher torque) when working aloft. With the contortions you have to employ to get into a decent cutting position there is much greater scope for injury to the backs of a climbers leg so type C trousers may be mandated. Ironically these are the very trouser types that originally led to resistance against wearing

TypeC & A+/360° CHAINSAW TROUSERS

them for climbing and only when lighter weight Type A trousers with front-only protection became common did many climbers get back on board with some then moving up to the greater levels of protection afforded by Type C and/or Class 2 and 3 as well as the most common class 1 trousers. While any chainsaw user can use any type of chainsaw trouser and it will be better than your old denim jeans, there are clearly different types of user - Climbers, ground crew, emergency workers, foresters and utility workers in cherry pickers for instance. There are also different work environments - hot and cold climates, wet and dry (which can both be hot or cold), working on a garden lawn, a remote and congested forest floor, a manoeuvrable hydraulic platform or hanging from a rope in the tree's canopy. These uses may require that your trousers are also highly visible such as road and Rail workers or that they are as well ventilated and lightweight as possible for hot-dry climates. Indeed with a few exceptions it is only type A and A+ that allows the rear zipped vents and a main reason for many climbers sticking to 1A protection. 'Comfort' is not restricted to the cut protection and flexibility that this allows. There is also the question of whether it keeps you dry in the wet, (See EN343-3), whether it is well ventilated or can be seen in low light and when working in areas where others need to see you like roads and railways.

FEATURES:



MATERIALS: modern chainsaw trousers have evolved from those early suits of armour in two ways in particular - stretch fabrics to allow less restricted movement and breathability. Its no surprise that the waist, the high waist band to prevent 'builders bum' and stop drafts and the larger trouser panels around the thighs and crotch have incorporated elastic fabrics but so too have the reinforced areas of the knee and seat. These high wear areas have combinations of heavy duty nylon/*Cordura* - in heavier weights than the main fabrics but they also incorporate even harder wearing fabrics like *Aramid* in combination with stretch fabrics like *Spandex* to try and cancel each other out in the stretchy/not-at-all-stretchy battle.

The ankle is also reinforced because it can get a lot of abuse from your boots and especially your spikes but that doesn't need the addition of stretch fabrics so it can be all-tough. The seat can be a high wear area if you take a lot of tea breaks or drive in your chainsaw trousers but equally you lean



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on your backside during climbing more than you'd expect and the harness being in continual loaded contact is a real point of wear. All of this stretch and tear resistance is married with breathability and comfort so these are a pretty complex arrangement of fabrics - there are 4 or 5 different fabrics on show in this pair of SiP Canopy trousers. Breathability is introduced by adding cooling and moisture wicking materials like *Coolmax* and humble cotton into the inner lining and even sandwiching the cut protective layers as these are often bundles of fibres that are inherently aerating as you move, in fact you could almost see this as a kind of bellows sucking and blowing air as you move.

■ **REFLECTIVE:** Not just high-viz which you can see just by looking at the pictures but has reflective strips or piping or highlights that pick up and reflect light so that the trousers are highlighted in low light or in the dark when an ambient light source is shined in the general direction.

■ **ANTI-TICK:** An elasticated or velcro-closed hem or gaiter is good in the cold and wet and for keeping out ticks. Some are designed as a secondary gaiter inside the hem and running several inches up but this can be hot and heavier for climbers so some are a detachable gaiter (listed as such in the 'features' panel in the tables). Closing the hem to restrict access of snow and ticks may be via elastication as with the *Solidur* pair above, or a velcro tensioning strap as in the *Clogger* pic on the right. We have listed this as **TICK** prevention but it relates to any hem that closes on the boot to stop 'stuff' and critters getting up your inside leg. Some will mention in their 'FEATURES' notes in our tables that the hem has a vertical zip like the *Pfanner* pair opposite - this makes for easier boot donning/doffing.

■ **BOOT HOOK:** Many hems have a boot hook to stop the trouser leg riding up. This clips to the laces just around the transition from upright to horizontal.

□ **ATTACH BRACES:** a bespoke attachment point(s) like buttons, loops or *Velcro* etc. to attach braces/suspenders/shoulder straps securely to the trousers. Trousers that have a raised waist at the rear (kidney warmer) like these *Husqvarna Functionals* usually incorporate an attachment point that not only secures the braces/suspenders but keeps that raised waist section upright.

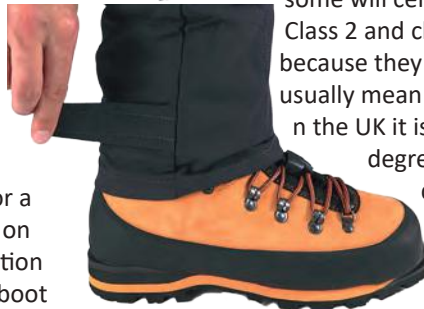
■ **ZIP VENTS:** Working hard in a pair of multi-layered, relatively heavy trousers generates a lot of heat and moisture so most type A/front-only protection trousers have an opening on the thighs that can be unzipped to allow better air circulation and exhaust some moisture. This is often negated in type C trousers by the layer of chainsaw protection on the rear of the legs which is why many European

manufacturers consider type C to be less suitable for climbers. The UK disagrees and reckons you just adjust to the discomfort of increased heat and sweat because it's better than bleeding out from a cut to the back of your legs. Type A+ with Calf protection can, and most often does, have rear vents in the thigh area.

■ **CLIMBING:** What's the difference between a pair of chainsaw trousers used on the ground and a pair used by climbers? Well, sometimes, not a lot. Again, the different approach by the UK with the greater chainsaw protection of type C is recommended for climbers is in stark contrast to Europe and North America where lighter, front-only protection trousers are deemed most suitable for climbers because they're lighter and they allow more freedom of movement. There are other features that will get the trousers a **CLIMBING**- suitable green square, Harness-compatible pockets - only climbers will be wearing a harness so, by default, these must be climbers trousers - that is of course the manufacturers interpretation, as are all of the trousers that have a green square in this row - we're not subjectively telling you that they are suitable for climbing, the manufacturer is, so some will certainly be better for climbing than others. Class 2 and class 3 trousers will be heavier and bulkier because they have higher chain speed protection which will usually mean more bundles of fibres or more layers. Even in the UK it is not deemed great for climbing to have this degree of protection at the expense of comfort and dexterity. Type A+ however, with chainsaw protection on the calf rather than all the way up the back of the leg may well be the best compromise and somewhere that the UK and Europe/North America can come together and agree. *Clogger* in New Zealand, don't care either way because they provide the equivalent of type C and type A as options on all their main trouser ranges.

POCKETS

The problem with pockets on chainsaw trousers is that they fill up with sawdust and debris unless they have efficient closures. So you see that most pockets have either a zip, and often a waterproof sealed zip, or a *Velcro* or press stud flap. Most trousers have various combinations of the following: **HAND POCKETS:** one or two side (some describe this as front) slant or hand pockets - these are mostly angled downwards for easier hand entry but some are square and they are pretty much all zip closures. However, you will forget to close those zips on a regular basis so many are 'reversible' so that you can pull the pocket out like an old sock and tip out all the accumulated sawdust.



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ENROLL >



PREPARE >



PARTICIPATE >



CERTIFY >



ENGAGE >



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- ... you gain the satisfaction of knowing you are instrumental in creating and/or changing your organization's safety culture.



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Call 800.733.2622 or visit TCIA.ORG/CTSP



CARGO: A side or thigh mounted cargo pocket with a flap over the opening - this is usually the largest pocket.

RULER/TOOL POUCH: which is long and thin and often flapped like the *Pfanner* on the right or open at the top like the *Solidur* model right and may be located within the cargo or on the outside of it. This *Solidur* pic also shows a tool loop which is a receptacle for your screwdriver and in its simplest form is just a loop or tab of material with a slit opening and the screwdriver end is secured in the ruler pouch/pocket or into web loops as with this *Solidur*.

REAR POCKET - usually zipped though some may have a securable flap. Almost always square with the trouser waist.

PHONE POUCH/POCKET - sized to fit a large smartphone these days rather than a late nineties *Nokia* and often also inside another pocket. This will usually have a sealed zip that stops water getting in.

FIRST AID: Not common but *Solidur* have made that high waist we mentioned previously into a first aid pocket - genius (as long as it's all the soft first aid stuff like plasters and trauma dressings, wouldn't fancy a defibrillator sticking in my back!)



CHAINSAW & SAFETY STANDARDS

In terms of Chainsaw protection there are three European Standards and two North American standards that specifically deal with chainsaw protection of trousers: EN 381 5, and EN11393 and the multi-faceted KWF in Europe with the latter two referencing EN381.5 rather than being specific cut test standards, in fact KWF is more of a prestige or quality assurance 'badge'. ASTM F1897 and the newer ASTM 3325 in North America. The European standards specify differing chain speeds from 16 to 28metres per second whereas the US ASTM F1897 specifies only 14m/s and the more Canadian-adopted ASTM 3325 with the higher 20m/s resistance. It's no real surprise that the vast majority of US retailers sell the higher rated and more specifically cut-tested European trousers. Australia and New Zealand have AS/NZS 4453.3:1997 also 20 m/s chainspeed.

■ **EN 381-5 – Chainsaw Protective Clothing – Leg Protection**
This standard covers leg protection for chainsaw users, ensuring materials can resist chainsaw cuts. Performance classes are based on chain speed which broadly relates to a chain on runout (finger off the trigger) not at full revs:

- Class 0 (16m/s) (normally for gloves)
- Class 1 (20 m/s)
- Class 2 (24 m/s)
- Class 3 (28 m/s)

In addition there are locational 'Types' of trouser protection indicating where the specific protection barriers are located:

Type A: protective layers/materials are positioned only on the front of the legs

Type B: 'Chaps' or open-backed, shaped 'covers' that go over the top of any type of work trousers.

Type C: protective layers/materials positioned at the front and the back of the legs, - 360° coverage.

■ **EN ISO 11393-21 – Protective Clothing for Chainsaw Users**

This standard may be mutually exclusive with EN381-5 since it incorporates its test methods for protective clothing designed to protect against chainsaw injuries. Key parameters are:

- Cut resistance (tested using a chainsaw at different speeds)
- Abrasion and tear resistance
- Ergonomic design and comfort
- Material durability and flexibility
- Coverage areas (e.g., trousers, jackets, gaiters, gloves, boots)

■ **KWF/KWF-Profi** - German forestry 'quality-assurance' version of EN11393 inc waterproofing. Profi=professional
In North America different standards apply which are more akin to EN11393 with seven requirements including one cut test.

■ **AS/NZS 4453.3:1997** - Australia & New Zealand broadly following EN 381-5 Class 1 testing (20m/s).

■ **ASTM F1897 – Leg Protection for Chainsaw Users**

1. Cut Resistance Testing: The protective material is tested against a moving chainsaw to evaluate its ability to slow down or stop the chain. The test is performed at a chain speed of 2750 feet/minute (fpm) (≈ 14 m/s). If the chainsaw does not cut through the innermost layer, the clothing passes the test.

■ **ASTM F3325** For lighter chainsaw clothing but actually uses the higher 20m/s so aligns more with Canadian requirements.

2. Coverage and Design: Minimum coverage for protection:

Chaps: Must cover the front and sides of the legs.

Pants: Must have full-leg protection, including the back if designed for arborists.

Leggings: Must provide at least 180° coverage around the leg (Equivalent to EN 381-5 type A).

Garments should not have gaps or unprotected areas where a chainsaw could easily penetrate.

3. Material Requirements: Must include multiple layers of cut-resistant fibers that can clog the chainsaw's drive system upon contact. Common materials used: Kevlar®, Ballistic Nylon & Engtex® high-performance fibers

4. Water and Oil Resistance: Protective clothing must be resistant to water and petroleum-based oils, as these substances can degrade fabric performance. Some designs include a water-repellent outer layer to maintain durability in wet conditions.

5. Labelling and Certification: All chainsaw protective clothing must have a label indicating compliance with ASTM F1897.

The label should also specify:

- Manufacturer information
- Garment type (chaps, pants, leggings, etc.)
- Chain speed rating (e.g., 2750 fpm)

Associated Standards which don't include a cut test other than to reference a requirement for ASTM F1897 include:

■ **ANSI Z133 – Safety Standards for Arboriculture**

Requires chainsaw operators to wear leg protection (chaps or

TypeC & A+/360° CHAINSAW TROUSERS

pants) meeting ASTM F1897. Covers helmet, eye, ear, hand & foot protection for tree workers.

OSHA 1910.266 – Logging Operations Standard

Requires chainsaw chaps or pants meeting ASTM F1897 for loggers. Specifies other PPE requirements (helmet, gloves, boots, hearing protection, etc.) Mandates chainsaw training.

Canada: CSA Z195 – Protective Footwear

Requires chainsaw protective boots to have cut-resistant material around the foot and ankle.

CSA Z96 – High-Visibility Safety Apparel

Relevant for chainsaw operators working in roadside or forestry environments. Defines visibility requirements for jackets, vests, and coveralls. Various provinces, like BC, Alberta, and Ontario, enforce workplace chainsaw safety rules and often require chainsaw protective gear that meets or exceeds ASTM F1897 and OSHA 1910.266.

PERIPHERAL EUROPEAN STANDARDS

There is the German **KWF** trademark for forestry equipment referencing EN 318.5 but also requiring water resistance and durability plus a whole load of associated European standards that are not directly related to chainsaw protection but cover other comfort and safety issues like visibility. We've listed these associated standards here so's you are clear on what is and isn't relevant to your work conditions.

■ **EN ISO 13688 – Protective Clothing general performance** in terms of ergonomics, markings, compatibility with other safety gear, sizing, use of inert fabrics and colours etc.

EN 13758-3 – UV Protective Clothing

■ **EN ISO 20471-9 – High-Visibility Clothing**
Minimum surface area of fluorescent material (yellow, orange, or red). Retro-reflective tape properties (brightness and performance), Colorfastness and washing durability

Design requirements (placement of reflective materials)
Performance classes (Class 1, 2, or 3) based on risk levels

■ **RIS-3279-TOM** - Hi-visibility clothing as required by the RAIL industry and including prescribed reflective panels

■ EN 343-3 – Waterproof Clothing

This standard defines waterproof and breathable clothing for protection against rain and wet conditions. Key parameters:
Water penetration resistance (Waterproofness) – Class 1 to 4
Water vapour resistance (Breathability) – Class 1 to 4
Seam strength and durability, resistance to hydrostatic pressure, impact of washing on waterproof performance. Note that we also list ● **REPEL WATER** (enhanced material or a coating) separately since not all will apply for the **EN343** standard even if the product is waterproof.

NORTH AMERICA VS. EUROPE

COMFORT AND BREATHABILITY:

- Ventilation zippers, moisture-wicking fabric, and reinforced knee and ankle areas for durability.
- Lightweight and flexible designs improve comfort for prolonged use.

- Chaps offer better ventilation, trousers vary in airflow. Type A trousers include ventilation zips for breathability.
- North American chaps provide better breathability, but European trousers offer superior all-around protection but can be heavier due to the extra protection measures.

ADDITIONAL FEATURES COMMON TO BOTH:

- Water-resistant or waterproof coatings for wet conditions.
 - High-visibility colours or reflective strips for added safety.
 - Reinforced seams and stretch panels for better mobility.
- Chainsaw protective trousers in North America and Europe serve the same purpose; preventing injuries by stopping or slowing down a running chainsaw, But they follow different safety standards, classifications, and design requirements. In Europe they must be CE-certified, but some manufacturers make US variant trousers that comply with ASTM requirements -remember that the Canadians tend to use ASTM (F3325) with a slightly higher chain speed requirement of 20m/s. Finally, some of these entries aren't simply trousers, they may be **overall**s or **jump-suits** like *Pfanner's* left, which integrates the trousers into a top section or they may have just a bib in the same style as skiing Salopettes. We have not included chaps in this guide as they are mostly front protection only and are prone to snagging so not generally used by arborists. Nevertheless these can be an option for you to consider so are included in the **BUYERS GUIDE**. Also worth a look is the modular concept as used by *Arbortec* with the *ArborFlex* system. A base protective layer provide 1A, 1A+ or 1C protection (which can be worn by itself) and this is married to an outer (skin) in your colour choice. These can all be worn as standalone or a system.



IN THE FOLLOWING TABLES.....

Protection The level (*or equivalent level to EN381-5 in brackets eg. (1C)*) of chainsaw cut protection with variants in cyan eg. **1A SERIES**: Is often the same as the Model name if there are few others or only one model in the range. Some trousers are better known by their **series** name.

REFLECTIVE: Active reflective material -not just high viz colour
BOOT HOOK: Often elasticated, an attachment from the trouser hem to the boot or its laces to stop the trousers riding up. Not the same as **ANTI-TICK** where the hem/gaiter closes around the ankle to prevent snow & critters climbing up the inside of the leg.
ZIP VENTS: Zipped opening on leg's rear to help cool the wearer- NOT normally on type C because of rear thigh coverage although but A+ with calf only usually has vents.

CLIMBING: These have features such as elasticated panels and expanding knee area that allow dynamic moving and acute bending at the knee necessary for dynamic climbing. They also have pockets that are accessible wearing while a harness.

POCKETS: we have listed the spark-plug wrench/screwdriver/sprocket-cover wrench as a '**scrench**' (**screwdriver/wrench**)

FEATURES: Because the materials and definitions vary so much and there is a fair degree of subjectivity in how they view their own materials and combinations, we also use the manufactures own description of features.

OTHER COLOURS: We have usually shown a different coloured rear and front so 'other colours' is all other colour options aside from the one or two shown at the top of each column.

Choosing the correct chainsaw trouser



Selecting the appropriate chainsaw trousers is essential for ensuring safety, as leg injuries are the most common type of chainsaw-related harm. At Arbortec, we offer a comprehensive range of chainsaw trousers designed to meet the diverse needs of arboricultural professionals and related industries.

Protection Levels & Certification

The primary factor when choosing arborist trousers is the required level of protection. Our trousers meet a minimum of Class 1 (20m/s) standards, with additional options for Class 2 (24m/s) and Class 3 (28m/s) to accommodate higher chainsaw speeds. We also provide a range conforming to UL standards for the US & Canada. 2025 has seen the introduction of the Vented Trouser, certified to UL standards, designed for optimal comfort in warmer climates.

Design Options

- Design A (Type A) – Frontal protection with 5 cm rear coverage, ideal for standard forest and arb jobs
- Design A Plus – Enhanced Design A with added calf protection, offering 180° coverage to the lower leg.
- Design C (Type C) – Full leg protection for comprehensive safety during demanding jobs

Safety Meets Style

In addition to top-tier protection, our trousers are available in a wide range of colours, allowing you to express your style without compromising on safety.

For a full list of styles, colours, and specifications, visit [arbortec.com](https://www.arbortec.com).

Arbortec - innovative options for all applications

BREATHEFLEX



Design A Design C

An affordable option for any arborist/groundie seeking a trouser to cover all eventualities. The original limes are available to Class 3!!

CLASS: 1, 2, 3 (UL available please see website for colours)

DESIGN/TYPE: A, A+, C

FIT: STRAIGHT

FLEXIBILITY: 

DURABILITY: 

COLOURS: 8 

RAIL APPROVED OPTION: YES

SIZES:* XS-5XL. Short, Regular, Tall, Extra Tall



BREATHEFLEXPRO



Design A Design C

The most popular trouser in the industry. Designed for professionals with a wealth of benefits and features for all daily forest & arb tasks

CLASS: 1, 2. (UL available please see website for colours)

DESIGN/TYPE: A, C

FIT: SLIM

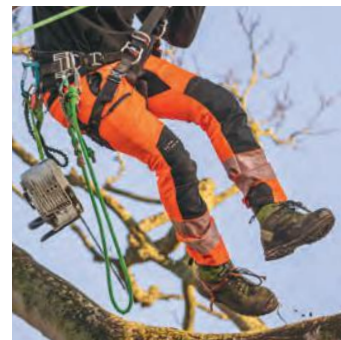
FLEXIBILITY: 

DURABILITY: 

COLOURS: 14 

RAIL APPROVED OPTION: YES

SIZES:* XS-3XL, Short, Regular, Tall, Extra Tall



PROFREESTYLE



Design A Design C

A super flexible chainsaw trouser with a tailored fit. The perfect trouser for tree work but equally great whatever your day entails.

CLASS: 1 (UL available please see website for colours)

DESIGN/TYPE: A, C

FIT: ATHLETIC

FLEXIBILITY: 

DURABILITY: 

COLOURS: 4 

RAIL APPROVED OPTION: NO

SIZES:* XS-3XL, Short, Regular, Tall



DEEPFOREST



Design A Design C

A heavy duty chainsaw trouser using the latest technology & superior fabrics, delivering the ultimate in comfort with maximum safety.

CLASS: 1

DESIGN/TYPE: A, C

FIT: ATHLETIC

FLEXIBILITY: 

DURABILITY: 

COLOURS: 3 

RAIL APPROVED OPTION: Coming Soon!

SIZES:* XS-3XL, Short, Regular, Tall



VentedUL



Vented Pants for uncompromising protection and comfort, plus additional ventilation for the warmest of working environments.

CONFORMS TO: ASTM F1897-20 - leg protection for chain saw users certified for the USA & ASTM F3325-20 Class C - leg protection or chain saw users certified for Canada

FIT: STRAIGHT

FLEXIBILITY: 

DURABILITY: 

VENTILATION PANELS: 4

COLOURS: 3 

SIZES:* XS-3XL Regular, S-3XL Tall



UK Size	EU Size	US Size	Waist (cm)	Waist (in)	Length (cm)	Length (in)
XS	30-32"	00-10cm	28" (71cm)	31" (79cm)	33" (84cm)	N/A
S	32-34"	10-14cm	28" (71cm)	31" (79cm)	33" (84cm)	30" (76cm)
M	34-36"	14-18cm	28" (71cm)	31" (79cm)	33" (84cm)	30" (76cm)
L	36-38"	18-22cm	28" (71cm)	31" (79cm)	33" (84cm)	30" (76cm)
XL	38-42"	22-30cm	28" (71cm)	31" (79cm)	33" (84cm)	30" (76cm)
XXL	42-46"	30-34cm	28" (71cm)	31" (79cm)	33" (84cm)	30" (76cm)
3XL	46-50"	34-38cm	N/A	31" (79cm)	N/A	N/A
4XL	50-54"	38-42cm	N/A	31" (79cm)	N/A	N/A
5XL	54-58"	42-46cm	N/A	31" (79cm)	N/A	N/A

IMAGES NOT TO SCALE
COST: Approx inc local tax/VAT
£/\$/€=currency conversion only
LEGSIZES: S Short R Regular L Long/Tall XL Extra Long/Tall
STANDARDS: (equivalent to)
 EN381-5= Chainsaw Cut Pro
 ENISO11393-2= Chainsaw safety
 ASTM F1897USA= Cut Pro+
 ASTM F3325Can/US= Lt Cut Pro+
 AS/NZS 4453.3= Cut Pro+
 KWF-Profi= Forestry safety
 ANSI Z133= Gen Arboriculture
 ENISO13688= Safety Clothing
 EN 343-3 = Waterproofing
 RIS-3279-TOM= Hi-Viz Rail
 EN ISO 20471= Visibility
 ANSI107 & CSAZ96= Visibility
EN CUT PROTECTION:
 Class 1: 20m/s
 Class 2: 24m/s
 Class 3: 28m/s
 Level A=Front leg. A+= +Calf
 Level C=front & back leg
WATER REPELLENT:
CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR
MODEL PROTECTION VARIANT	AT4050 AT4010 1C 1A	AT4050F AT4010F 1C 1A	ATHV4050 ATHV4010 1C 1A
SERIES	BREATHFLEX	BREATHFLEX	BREATHFLEX
PRODUCT CODE(S)	AB344497 AB345451 AB345414	AB344497 AB345451 AB345414	AB344923..841 AB344885 ..803
ORIGIN			
COST inc VAT/tax conv-only	£342298 \$445386 €350305	£342298 \$445386 €350305	£342303 \$445386 €350305
WEIGHT per pair (m/lg R)	1.5 1.2kg / 3.3 2.64lb	1.5 1.2kg / 3.3 2.64lb	1.5 1.2kg / 3.3 2.64lb
STANDARDS REPEL WATER			
WAIST & LEG SIZES FEMALE	S-5XL S, R, L, XL	S(6)-2XL(22-24) R	XS-3XL R,L
MATERIALS - OUTER LINER CUT PROTECTION	Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock
POCKETS	Dbl-flap Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip	Dbl-flap Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip	Zip Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING	*	*	*
FEATURES	Reinforced at high tension seams. Kevlar lower leg. Quality YKK zipper inc. pockets Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. *Rear Vent zip on Level A Only	Reinforced at high tension seams. Kevlar lower leg. Quality YKK zipper inc. pockets Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. *Rear Vent zip on Level A Only	High Vis (UK Railways Approved) Reinforced at high tension seams. Kevlar crotch & lower leg. Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. Velcro waist size adjustment. *Rear Vent zip on Level A Only
OTHER COLOURS			
NOTES		Female cut	
WEBSITE	arbortec.com	arbortec.com	arbortec.com

TypeC & A+/360° CHAINSAW TROUSERS



ARBORTEC FORESTWEAR

AT4015 1A+

BREATHFLEX

AB345580



£315 \$408 €000

1.6kg / 3.5lb



XS-3XL R,L

Polyester, Nylon, Kevlar
Nylon
6 layers-Trio strand Gridlock

Zip Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip



AT4015 is a Design A Plus pants (saw protection to the front of the leg and rear from ankle to knee)
Reinforced at high tension seams.
Kevlar crotch & lower leg.
Downward-facing Pocket Zips.
Compatible with climbing harness.
Reinforced lining around ankle.
Velcro waist size adjustment.

green/black only

arbortec.com

ARBORTEC FORESTWEAR

AT4040 AT4020 2C 2A

BREATHFLEX

AB345470 AB345433



£418248 \$541322 €000000

1.9 1.4kg / 4.2 3.1lb



S-5XL S, R, L, XL

Polyester, Nylon, Kevlar
Nylon
6 layers-Trio strand Gridlock

Dbl-flap Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip



Reinforced at high tension seams.
Kevlar lower leg.
Quality YKK zipper inc. pockets
Downward-facing Pocket Zips.
Compatible with climbing harness.
Reinforced lining around ankle.
*Rear Vent zip on Level A Only

green/black only

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*Covers the contiguous U.S.A. Excludes oversized items.

Arbortec Size Chart www.rescuemagazines.com

UK Size	EU Size	US Size	Waist (cm)	Waist (in)	Length (cm)	Length (in)
XS	30-32"	30-32"	80-71cm	29 1/2-28 1/2"	31 1/2-30"	33 1/2-32 1/2"
S	32-34"	32-34"	71-81cm	28 1/2-31 1/2"	31 1/2-30"	33 1/2-32 1/2"
M	34-36"	34-36"	81-89cm	29 1/2-31 1/2"	31 1/2-30"	33 1/2-32 1/2"
L	36-38"	36-38"	89-97cm	29 1/2-31 1/2"	31 1/2-30"	33 1/2-32 1/2"
XL	38-42"	38-42"	97-103cm	29 1/2-31 1/2"	31 1/2-30"	33 1/2-32 1/2"
XXL	42-46"	42-46"	107-114cm	29 1/2-31 1/2"	31 1/2-30"	33 1/2-32 1/2"
3XL	46-50"	46-50"	114-122cm	N/A	31 1/2-30"	N/A
4XL	48-52"	48-52"	123-128cm	N/A	31 1/2-30"	N/A
5XL	50-54"	50-54"	129-137cm	N/A	31 1/2-30"	N/A

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MANUFACTURER	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR
MODEL PROTECTION VARIANT	AT4035 AT4030 3C 3A	ATHV405040.....35 1C 2C 3C	ATHV4070 ATHV4060 1C 1A
SERIES	BREATHFLEX	BREATHFLEX	BREATHFLEX PRO
PRODUCT CODE(S)	AB344573 AB344555	AB344942..633	AB346154 AB346164
ORIGIN			
COST inc VAT/tax conv-only	£378248 \$490322 €461431	£342420 \$441542 €408500	£392357 \$508463 €410360
WEIGHT per pair (m/lg R)	2.3 1.8kg / 5 4lb	1.9 1.4kg / 4.2 3.1lb	1.5 1.2kg / 3.3 2.64lb
STANDARDS REPEL WATER			
WAIST & LEG SIZES FEMALE	S-5XL S, R, L, XL	XS-3XL R,L	XS-3XL R,S, L, XL
MATERIALS - OUTER LINER CUT PROTECTION	Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock
POCKETS	Dbl-flap Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip	Zip Cargo & phone pockets. 2xTool pouches. 2xrear & 2x front zip	2x zip side, 2x zip front/thigh, 1 zip rear
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	Reinforced at high tension seams. Kevlar lower leg. Quality YKK zipper inc. pockets Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. *Rear Vent zip on Level A Only	High Vis (UK Railways Approved) Reinforced at high tension seams. Kevlar crotch & lower leg. Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. Zipped Cargo and phone pockets. Velcro waist size adjustment.	High Vis (UK Railways Approved) Reinforced at high tension seams. Kevlar crotch & lower leg. Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. Velcro waist size adjustment. YKK zips *Rear Vent zip on Type A Only
OTHER COLOURS	green/black only	orange only	
NOTES		Price for 2C, 3C =£	
WEBSITE	arbortec.com	arbortec.com	arbortec.com

TypeC & A+/360° CHAINSAW TROUSERS



ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR	ARBORTEC FORESTWEAR
AT4070 AT4060 1C 1A	AT4070 AT4060 1C 1A	AT4070 AT4060 FREESTYLE 1C 1A	AT4062 Vented 1A 1C
BREATHEFLEX PRO	BREATHEFLEX REALTREE	BREATHEFLEX	BREATHEFLEX
AB345554 to ..8079 AB345538 to ..8056	AB36517x AB3463.66.42.88	AB346496 AB346513	AB366006...026..
£392357 \$508463 €410360	£414378 \$537490 €410360	£406388 \$526503 €381364	£305 \$405 €349
1.5 1.2kg / 3.3 2.64lb	1.5 1.2kg / 3.3 2.64lb	1.5 1.2kg / 3.3 2.64lb	1.2kg / 2.64lb
XS-3XL R,L	XS-3XL R,L	XS-3XL S,R,L	XS-3XL R,L
Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock	Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock
2x zip side, 2x zip front/thigh, 1 zip rear	2x zip side, 2x zip front/thigh, 1 zip rear	2x zip side, 2x zip front/thigh, 1x zip rear	1x Cargo, 2x zip side, 1x zip rear
Reinforced at high tension seams. Kevlar crotch & lower leg. Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. Velcro waist size adjustment. YKK zips *Rear Vent zip on Type A Only	REALTREE pattern collaboration Reinforced at high tension seams. Kevlar reinforcement at lower leg. Downward-facing Pocket Zips. Compatible with climbing harness. Reinforced lining around ankle. Velcro side adjusters: Adjust the waist size to suit.YKK zips. *Rear Vent zip on Type A Only	Low elasticated waist, offset seams and articulated knees for extra flexibility and comfort. Crotch = Kevlar & stretch fabric that allows for flexibility aloft. Strong, flexible outer materials.New tailored fitting. YKK zips Belt loops. Low back. Adjustable waistband. *Rear vent zips on Type A only	4 large ventilation panels, front & back, max airflow, for hot climates. Reinforced at high tension seams. Kevlar Knee Reinforcement. Downward-Facing pockets. Harness compatible zips. Extra-stretchy crotch panel. Adj waistband with high back. YKK zips. *Rear Vent zip on Type A Only
The 2xMulticolour options have plain blue rears.	Pattern version of Breatheflex Pro		USA/Canada Only
arbortec.com	arbortec.com	arbortec.com	arbortec.com

MARKET GUIDE

UK Size	Waist	Thigh	Leg	Length	Foot
XS	25-28"	35-41cm	29 1/2"	31 1/2"	32 1/2"
S	28-32"	41-45cm	30 1/2"	31 1/2"	33 1/2"
M	30-35"	45-49cm	31 1/2"	31 1/2"	34 1/2"
L	35-40"	49-53cm	31 1/2"	31 1/2"	35 1/2"
XL	38-42"	53-57cm	31 1/2"	31 1/2"	36 1/2"
XXL	42-46"	57-61cm	31 1/2"	31 1/2"	37 1/2"
3XL	45-49"	61-65cm	31 1/2"	31 1/2"	38 1/2"
4XL	48-52"	65-69cm	31 1/2"	31 1/2"	39 1/2"
5XL	52-56"	69-73cm	31 1/2"	31 1/2"	40 1/2"

IMAGES NOT TO SCALE
COST: Approx inc local tax/VAT
£/\$€=currency conversion only
LEGSIZES: S Short R Regular L Long/Tall XL Extra Long/Tall

STANDARDS: (equivalent to)
 EN381-5= Chainsaw Cut Pro
 ENISO11393-2= Chainsaw safety
 ASTM F1897USA= Cut Pro+
 ASTM F3325Can/US= Lt Cut Pro+
 AS/NZS 4453.3= Cut Pro+
 KWF-Profi= Forestry safety
 ANSI Z133= Gen Arboriculture
 ENISO13688= Safety Clothing
 EN 343-3 = Waterproofing
 RIS-3279-TOM= Hi-Viz Rail
 EN ISO 20471= Visibility
 ANSI107 & CSAZ96= Visibility

EN CUT PROTECTION:
Class 1: 20m/s
Class 2: 24m/s
Class 3: 28m/s
Level A=Front leg. A+= +Calf
Level C=front & back leg

WATER REPELLENT: ●
CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	ARBORTEC FORESTWEAR		ARBORTEC FORESTWEAR
MODEL PROTECTION VARIANT	AT4090 AT4080 1C 1A		AT4250 AT4215.10 Base 1C 1A+ 1A
SERIES	DEEP FOREST		ARBORFLEX-SKINS
PRODUCT CODE(S)	AB346743.794.691...717.768.665		AB346155 AB343056
ORIGIN			
COST inc VAT/tax conv-only	£497444 \$644575 €520460		£199187 \$259243 €212208
WEIGHT per pair (m/lb R)	1.8 1.6kg / 4 3.5lb		1.2kg / 2.64lb
STANDARDS REPEL WATER			(outer skin options)
NO Cut Pro Storm=● HV=■			
WAIST & LEG SIZES FEMALE	XS-3XL S,R,L		XS-3XL R, L
MATERIALS - OUTER LINER CUT PROTECTION	Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock		Polyester, Nylon, Kevlar Nylon 6 layers-Trio strand Gridlock
POCKETS	2x zip side, 1x flap cargo/thigh, 2x zip rear		No
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING	*		
FEATURES	Heavier duty fabrics. Double Stitching. Avoid tears, rips, & seam failure for longer-lasting wear. Kevlar reinforced Reinforced Ankles and Knees. YKK zips. 3 strand Gridlock Lite=breathable chainsaw blocking fabric. Removable & replaceable Gaiter. *Rear Vent zip on Type A Only		Arborflex base protective layer (colour-coded C=green, A+=Orange, A=Red) worn with Arborflex Skins of your choice (Med/Pro/Storm). High-quality stretch fabrics for greater movement. Moisture-wicking Flex top shorts for comfort. Very lightweight chainsaw blocking material. Reinforced lining around the ankle area. YKK zips.
OTHER COLOURS			STORM PRO LT
NOTES			Arborflex Skins have no cut protection. They provide an outer skin to the protective base layer. All can be worn separately. Outer Skins= LIGHT/Standard- light & breathable MID: seat & low-leg Reinforcement (grn) PRO: HeavyDuty Reinforcement, STORM, Waterproof. YKK zips. HV and HV+STORM: High Viz Orange
WEBSITE	arbortec.com		arbortec.com

Presenting our
New Generation of protective pants
 Design, comfort and durability
 without compromise



GAMMA



Detachable gaiters



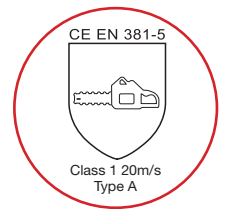
Adjustable leg width



Ventilation zippers



4 Way stretch fabric



Chainsaw protection
 Class 1 Type A

Top quality fabrics made by:



For more informations visit our web site



www.arbpro.it

CLOGGER Womens Std Size chart

Standard- Fits Person With Inseig Length

Size	CM	IN	Size	NZ, Aust, UK	US	EU
XS	72	28	XS	8	4	35
S	73	29	S	10	6	36
M	74	29.5	M	12	8	40
L	75	30	L	14	10	42
XL	76	30.5	XL	16	12	44
XXL	77	31	XXL	18	14	46
2XL	77	30	2XL	20	16	48

Approx Women's Size

IMAGES NOT TO SCALE
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LEGSIZES: S Short R Regular L Long/Tall XL Extra Long/Tall
STANDARDS: (equivalent to)
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 ENISO11393-2= Chainsaw safety
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 KWF-Profi= Forestry safety
 ANSI Z133= Gen Arboriculture
 ENISO13688= Safety Clothing
 EN 343-3 = Waterproofing
 RIS-3279-TOM= Hi-Viz Rail
 EN ISO 20471= Visibility
 ANSI107 & CSAZ96= Visibility
EN CUT PROTECTION:
Class 1: 20m/s
Class 2: 24m/s
Class 3: 28m/s
Level A=Front leg. A+= +Calf
Level C=front & back leg
WATER REPELLENT:
CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	CAN-SWE	CAN-SWE	CLOGGER
MODEL PROTECTION VARIANT	Poly Pro Backpad (2A+)	Seismic (3A+)	Arcmax Gen3 WoMans (1A+ 1A)
SERIES	FALLERS	PROMAX	-
PRODUCT CODE(S)	P001B	M002	TU91FW TU91F
ORIGIN			
COST inc VAT/tax conv-only	£128 \$165 €153	£147 \$190 €175	£378 \$490 €450
WEIGHT per pair (m/lg R)	0.92kg/2.2lb	1.36kg/3lb	1.23kg/2.7lb
STANDARDS REPEL WATER	*WCB PPE 1-1997 TCS3600	*WCB PPE 1-1997 TCS4100	+NFPA & ENA NENS 09-2014
WAIST & LEG SIZES FEMALE	S28-XXL44" R30"	S28-XXL44" R30"	XS-3XL S,R,L
MATERIALS - OUTER LINER CUT PROTECTION	13oz Stretch Polyester Polyester Kevlar	600D Polyester front/ Polyester Polyester Kevlar	Stretch FR Mesh 6 lyr Arretex FR + Vectran fibres
POCKETS	2x flap-covered hip pockets	2x flap-covered hip pockets	2 zipped hip pockets and a zipped pocket on the left thigh
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	Fabric is Heavy Double Knit 13oz Stretch Polyester for added durability. Knit provides excellent ventilation and movement. Nylon reinforced crotch with extra bar tacking. Hip pockets are ergonomically located to prevent hang ups during cutting and bending. Signature pocket flaps keep chips out and allow quick easy access. Intended for ground workers.	Nylon reinforced crotch with extra bar tacking. Nylon reinforced seat patch Full wrap protection extends around the calf. Belt Loops. Hip pockets are ergonomically located to prevent hang ups during cutting and bending. Signature pocket flaps keep chips out and allow quick easy access 50% Woven 600 Denier Polyester front 50% polyester knit back Intended for ground workers	Arretex FR inc Vectran cross woven to counter multi-directional strike. Waist to ankle coverage with extra on the left side. Front pro with 360 calf wrap. Outer rated to 11 cal/cm2 - ASTM F1959 -arc resistance &EN ISO 15025- fire resistance. 4-way 120% stretch FR outer with 60% increase tear strength. Abrasion resistant knee. Flexible seat-seam. Elasticized waist. Lock stitched seams & stress points reinforced. Strong zippers sealed to sawdust. 50mm belt loops. Opening at hems to eject debris.
OTHER COLOURS			
NOTES	*Meets a British Columbia standard exceeding chain speed requirements of ASTM-F1897 & F3325 but not so certified	*Meets a British Columbia standard exceeding chain speed requirements of ASTM-F1897 & F3325 but not so certified	Intended more for ground workers but has rear calf pro
WEBSITE	canswe.com	canswe.com	clogger.co.nz

TypeC & A+/360° CHAINSAW TROUSERS



CLOGGER	CLOGGER	CLOGGER	CLOGGER
Ascend WoMans (1C 1A)	DefenderPro WoMans (1A+ 1A)	Zero Ultra WoMans (1C 1A)	Zero Gen2 WoMans (1C 1A)
-	-	ZERO	ZERO
TU71BW TU71B	TC21DPRZW-RT TC21DPRZ-RT	TU73ZW TU73Z	TU71ZW TU71Z
£370 \$480 €441	£289 \$375 €344	£393 \$510* €468	£343 \$445 €409
1.3kg/2.6lb	1.1kg/2.4lb	1.05kg/2lb5oz	1kg/2.2lb
XS-3XL S,R,L	XXS-2XL S,R,L	XXS- XXXL S, R, L	XS-3XL S,R,L
HTP Nylon Ripstop Mesh 6 lyr Arrestex HP + UHMWPE fibres	Cordura Nylon Ripstop Mesh 6 lyr Arrestex HP + UHMWPE fibres	Ripstop nylon & stretch lycra Mesh 6 lyr Arrestex HP + UHMWPE fibres	HTP Nylon Ripstop Mesh 6 lyr Arrestex HP + UHMWPE fibres
2x zip hip, 2x zip thigh, 1x lg rear	2x zip hip, 2x zip thigh, 1x lg rear	2x zip hip, 2x zip thigh, zip phone pocket, 1x rear zip.	2x hip pockets, 2x thigh, 1x phone pocket on thigh
Thigh pocket can be inverted to remove saw dust. Lower pockets accessible wearing harness. Strong, durable zippers with seal to reduce sawdust damage. Zip- pulls on pockets. Snag-resistant plastic Boot hooks. Wide belt loops to fit up to a 50mm belt. Mesh lining for enhanced breathability. Hi-visibility orange highlights. Zip vents on type A only	For pro tree workers who work mostly but not exclusively, on the ground, Tough outer still full stretch, light and cool to wear. 2 zipped rear vents. Hip pockets pull out to easily remove saw dust. 1 zipped pocket on thigh ideal for phone etc - accessible while wearing a harness. sealed zips to stop dust ingress. Special zipper pulls on the pockets to make accessing your pockets easy even when wearing gloves. Wide belt loops to fit up to a 2 inch belt. Opening at hems to remove debris. Additional calf chainsaw protection	Abrasion resistant fabric on knee, inside calf & ankle. Dyneema® fabric on calfs to protect against hanging C'Saw. Elasticized waist. Lock stitched seams and reinforced stress points. Waist to ankle coverage. Extra on left side. Scannable® NFC. Deep & Harness Accessible pockets; Ankle cinches. 50mm belt loops. Opening at hems to remove debris. High viz panels front and rear. YKK zips	Proven over many years. 2x high-efficiency fixed side vents for max cooling airflow. Breathable outer uses Nilit® Breeze fibers to wick heat from the body. 140% 4-way stretch for max flex & ultra-low weight. Hi-tenacity nylon ripstop outer with Dyneema right calf to counter hanging chainsaw wear. Upgraded zippers and FlexZone in the seat seam for extra give. DWR water-resistant coating
*Minus \$30 for Type A (front-only)pro. *Waterproof from the knees down.	*Minus \$30 for Type A (front-only)pro. *Waterproof from the knees down.	*Minus \$30 for Type A (front-only) protection	*Minus \$30 for Type A (front-only) protection
clogger.co.nz	clogger.co.nz	clogger.co.nz	clogger.co.nz

IMAGES NOT TO SCALE
COST: Approx inc local tax/VAT
£/\$=currency conversion only
LEGSIZES: S Short R Regular
L Long/Tall XL Extra Long/Tall

STANDARDS: (equivalent to)

- EN381-5= Chainsaw Cut Pro
- ENISO11393-2= Chainsaw safety
- ASTM F1897USA= Cut Pro+
- ASTM F3325Can/US= Lt Cut Pro+
- AS/NZS 4453.3= Cut Pro+
- KWF-Profi= Forestry safety
- ANSI Z133= Gen Arboriculture
- ENISO13688= Safety Clothing
- EN 343-3 = Waterproofing
- RIS-3279-TOM= Hi-Viz Rail
- EN ISO 20471= Visibility
- ANSI107 & CSAZ96= Visibility

EN CUT PROTECTION:

- Class 1: 20m/s
- Class 2: 24m/s
- Class 3: 28m/s
- Level A=Front leg. A+= +Calf
- Level C=front & back leg

WATER REPELLENT:

CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	FRANCITAL	FRANCITAL	FRANCITAL
MODEL PROTECTION VARIANT	Arbois HV 1C	Everest R 1A+ 1A	Hades HV 1C 1A
SERIES	TYPE C	ECO	PLATINUM
PRODUCT CODE(S)	NR011	FL567DM FL567D	FL502 FL501
ORIGIN			
COST inc VAT/tax conv-only	£185 \$205 €188	£202 \$194 €185 178	£245230 \$262248 €240227
WEIGHT per pair (m/lg R)	1.4kg/3.08lb	1.1kg/2.4lb	1.641.2kg/3.62.6lb
STANDARDS REPEL WATER			
WAIST & LEG SIZES FEMALE	S-2XL R82cm	XS-3XL R82,L87cm	S-3XL R82,L87cm
MATERIALS - OUTER LINER CUT PROTECTION	93% Polyester 7% Elastane Cotton 8-Layer Polyester/Polyprop	Cordura, nylon & Elastane Cotton 5-Layer Sofly	Polyester, Elastane Cotton 5-Layer Sofly
POCKETS	2x slant, 1x Ruler	2x slant zip, 1x Ruler & Srench , 1x rear zip, 1x left front leg cargo	2x slant Zip, 1x Ruler, 1x rear zip, 1x rear cargo
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	Elasticated waist. Polyester - cotton fabric 70/30 240 gr/m ² water-repellent (fluorocarbon finish). Double-sided fabric 70% polyester exterior side for greater machine resistance and 30% cotton on the interior side of the fabric for comfort. 8-layer chain saw protection system. Rear high band 70 mm.	Eco--recycled nylon, unbleached lining, Fluor-free water-repellent finish. features reduced to a minimum Easily repairable accessories. Elasticated waist. Extended rear waist Lower leg & knee=2-way stretch fabric. UV protective	Global Recycled Standard (GRS) Certified Core Fabric: 96% Polyester recycled fiber 4% Elastane, 0% fluorocarbons: Sofishield reinforcements =4x more durable than Cordura. PFC-free Water-repellent treatment Elasticated waist. Extended rear waist Removable gaitors *Rear Vent zip on Type A Only
OTHER COLOURS		(All-black) 1A+ only	
NOTES	*TOM - Orange only	Cervin Pro/Queribus discontinued as type C	*TOM - Orange only
WEBSITE	francital.com	francital.com	francital.com

C/360° CHAINSAW TROUSERS



FRANCITAL	FRANCITAL	FRANCITAL	HUSQVARNA
Hermes 1A+ 1A	Prior 1C 1A	Prior Move Pro 1C 1A*	Waist/Hip Type C 1C 1A
PLATINUM	ECO	SILVER	TECHNICAL
FL560MM 1560M	FL001B	FL513	595000754 594999059
£260245 \$270262 €248240	£168 \$165 €152	£188 \$184 €169	£349 \$380 €350
1.07kg/2.35lb	1.5kg/3.3lb	1.5kg/3.3lb	1.63kg/3.5lb
XS-23XL S77,R82,L87cm	XS-3XL S77,R82,L87cm	XS-2XL R82cm	XS46cm-3XL64cm S,R,L
90% Nylon 10% Elastane Cotton 5-Layer Sofly	Coated Polyester Cotton 5 Layer SOFLY	Coated Flex Rip-Stop Nylon/Poly Cotton 5 Layer SOFLY	Cordura/Nylon/ Lycra Polyester 5 layer Tekora
2x slant/side zip, 1x Rear zip, 1x Ruler, 1x cargo	2x slant/side zip, 1x Ruler, 1x scrench	2x slant/side zip, 1x Ruler, 1x scrench	1x Zip side-leg
2 & 4-way stretch fabric. Elasticated waist. Extended rear waist Lower leg and knee supports in two-way stretch fabric. Elastic drawstring at the bottom of trousers. Pockets usable with harness. Removable gaiters with hook	Semi-elasticated waist with loops and extended (high) rear waist. Double-sided fabric 70% polyester exterior side for greater resilience and 30% cotton on the interior for comfort. Crotch has two-way stretch for more comfort and endurance. Cordura Reinforced Knees, seat & ankles. High-Viz Panels	SOFIGUARD® water-repellent finish, 6.6/7% Elastane provides all-way stretch Mono Rip textured fabric Double-sided fabric 70% polyester exterior side for greater resilience and 30% cotton on the interior for comfort. Wide dorsal bib (waist/kidney).	Lightweight, four-way stretch fabrics and a range of smart comfort and design features including pre-bent knees help you get more from every shift. Stretch fabric upper front & rear legs. Teflon-coated Kevlar/Cordura-Heavy reinforced knees, crotch & lower legs 45% Cordura®/30% Nylon/25% Kevlar. *Rear Vent zip on Type A Only
Type A Add €8 for Short & Long	Also available as overalls	*Also available as Class 2 & 3	
francital.com	francital.com	francital.com	husqvarna.com

SiP Protection Size Chart

Men's trousers, bib&brace, coverall										
EU (D)	US (D)	UK (D)	FR (D)	IT (D)	DE (D)	RU (D)	JP (D)	US (H)	UK (H)	FR (H)
80-88	32-34	30-32	34-36	38-40	42-44	46-48	165-175	6-6.5	5-5.5	4-4.5
90-98	36-38	34-36	38-40	42-44	46-48	50-52	175-185	6.5-7	5.5-6	4.5-5
100-108	40-42	38-40	42-44	46-48	50-52	54-56	185-195	7-7.5	6-6.5	5-5.5
110-118	44-46	42-44	46-48	50-52	54-56	58-60	195-205	7.5-8	6.5-7	5.5-6
120-128	48-50	46-48	50-52	54-56	58-60	62-64	205-215	8-8.5	7-7.5	6-6.5

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 ANSI107 & CSAZ96= Visibility
EN CUT PROTECTION:
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 Class 2: 24m/s
 Class 3: 28m/s
 Level A=Front leg. A+= +Calf
 Level C=front & back leg
WATER REPELLENT:
CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	OREGON	PFANNER	PFANNER
MODEL PROTECTION VARIANT	Yukon 1C 1A	Arborist 1C 1A	Ventilation 1C 1A
SERIES	-	ARBORIST	VENTILATION
PRODUCT CODE(S)	295397..295435..	106651 102218	102078 101761
ORIGIN			
COST inc VAT/tax conv-only	£155135 \$237220 €150130	£336 \$405€350326	£340288 \$438 €408
WEIGHT per pair (m/lg R)	1.25kg/2.75lb	1.63kg/3.6lb	1.2-1.95kg/2.6-4.3lb
STANDARDS REPEL WATER			
WAIST & LEG SIZES FEMALE	S30"-XXL40" S,R,L	XXS-3XL S-75,R-80,L-87cm	XS-3XL S-75,R-80,L-87cm
MATERIALS - OUTER LINER CUT PROTECTION	Polyester Polyester 5-Layer	100% Nylon (Rear 10% Elastine) Polyester Cocona Engtex Avertic Pro	coated Nylon (Rear 10% Elastine) Polyester Cocona Engtex Avertic Pro
POCKETS	2x large front, 1x slanted rear (with hook and loop closure)	2x side zip, 1x phone, 1x cargo, 1x rear zip	2x side zip, 1x flapped phone/cargo, 1x ruler pouch, 1x rear zip
REFLECTIVE BOOT HOOK ANTI-TICK		(Orange Hi-Viz version-only)	
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	5-layer protective material Abrasion resistant 2 & 4-way stretch polyester 2 large front pockets &and one back pocket Lightweight: 1,05 kg (size M Type A trousers)	Pfanter's StretchAIR® and KlimaAIR® fabrics for freedom of movement. Soft fibre lining for skin comfort. Keprotect® reinforcement front & inside legs protect against climbing spikes. Avertic Pro cut protection from Engtex. Waistband mesh improves ventilation. Preformed, tear-proof Keprotect knees. Soft comfort lining.	Very lightweight (1.2kg size medium) Removable gaiters - Summer version doesn't come with gaiters or coating. Waistband mesh improves ventilation. Tear-proof Gladiator fabric in the front. Pre-shaped knee reinforcements. Soft comfort lining. Zip Vents on Type A only
OTHER COLOURS			
NOTES			
WEBSITE	oregonproducts.com	pfanner-austria.at	pfanner-austria.at

TypeC & A+/360° CHAINSAW TROUSERS

			
			
PROFIFOREST	PROFIFOREST	SIP PROTECTION	SIP PROTECTION
Arborist 1C 1A	Cool 1C 1A	Perthus 1C	T-Flex 1A+
-	-	BASE PRO	FLEX
17-019 / 10	11-021/20	1RP6A2PAS	1XRU
			
£276 \$357 €268	£221-244 \$288-316 €266-292	£159 \$245 €190	£157 \$241 €187
1.6kg/3.5lb	1.45kg/3.2lb	1.75kg/3.85lb	1.8kg/3.96lb
			
XS-4XL S, R82, L cm	XXS-4XL R 82cm	S-3XL S, R, L	XS-2XL R82cm
92% Cordura, 8% spandex 100% Polyester 48% Polyester, 52% PP	92% Cordura, 8% spandex 100% Polyester 48% Polyester, 52% PP	Polyester Cotton 6-Layer	Coated Nylon Polyester mesh 6-layer Dyneema
Scrench pocket, Ruler pouch. 2x Zip front (1xeach side), 1x Cargo, 1 rear zip	Scrench pocket, Ruler pouch. 2x Zip front (1xeach side), 1x Cargo, 1 rear zip	2x front-slant, 1x rear zip, 1x cargo/ruler pouch & scrench holder	2x front-slant, 1x rear zip, 1x cargo/ruler pouch & scrench holder
			
			
Developed for work at heights with 360° reinforced legs. The trousers are reinforced in places where arborists need it most. Good ventilation. Water-repellent, dirt & abrasion resistant. Functional lining with Coolmax fibers Ventilation gaps on back of trousers Anti-Tick hems. Removable gaiters. 3M Reflective highlights. YKK zips. NB: Rear zip vents on Type A not Type C	For higher risk factors at work Despite higher level of protection, the user remains cooler in warmer climates. Materials used are water-repellent and resistant to dirt and abrasion. Comfortable Coolmax lining & ventilation on rear of legs Anti-Tick hems. Removable gaiters. 3M Reflective highlights. YKK zips. NB: Rear zip vents on Type A not Type C	Bib in back with attachment for braces Front fly with zip closure & button Elasticated waist with belt and attachment for suspenders classic SIP Protection triple needle stitching in the back seam	Zip Front fly with press stud. Elasticated waist with belt Anti-tick elasticated gaiter with metal lace hook to fix on shoe laces 6 layer front protective inlay and additional calf protection, Waterproof anti-wicking fabric on the hem, on top of the protective inlay. 2-way stretch fabric with 7%Elastane
		NB: This is the only type C in Sip's current range, <i>Samourai</i> =now A-only	
profiforest.eu	profiforest.eu	sip-protection.com	sip-protection.com

IMAGES NOT TO SCALE
COST: Approx inc local tax/VAT
 £\$€=currency conversion only
LEGSIZES: S Short R Regular
 L Long/Tall XL Extra Long/Tall
STANDARDS: (equivalent to)
 EN381-5= Chainsaw Cut Pro
 ENISO11393-2= Chainsaw safety
 ASTM F1897^{USA}= Cut Pro+
 ASTM F3325^{can/US}= Lt Cut Pro+
 AS/NZS 4453.3= Cut Pro+
 KWF-Profi= Forestry safety
 ANSI Z133= Gen Arboriculture
 ENISO13688= Safety Clothing
 EN 343-3 = Waterproofing
 RIS-3279-TOM= Hi-Viz Rail
 EN ISO 20471= Visibility
 ANSI107 & CSAZ96= Visibility
EN CUT PROTECTION:
 Class 1: 20m/s
 Class 2: 24m/s
 Class 3: 28m/s
 Level A=Front leg. A+= +Calf
 Level C=front & back leg
WATER REPELLENT: ●
CLIMBING: Flexible enough to
 allow dynamic climbing



MANUFACTURER	SOLIDUR	SOLIDUR	STEIN
MODEL PROTECTION VARIANT	Comfy 1C 1A	Climb LE 1A+	Sentinel 1C 1A
SERIES	-	CLIMB	SENTINEL
PRODUCT CODE(S)	COPA1C COPA	CLIPH	SS-1141523...
ORIGIN			
COST inc VAT/tax conv-only	£204190 \$265250 €200187	£305 \$395 €303	£298 \$385 €356
WEIGHT per pair (m/lg R)	1.7kg/3.74lb	1.2kg/2.64lb	1.76kg/3.9lb
STANDARDS REPEL WATER			
WAIST & LEG SIZES FEMALE	XS-4XL S, R, L, XL	S-2XL S, R, L	Sm-XXL R
MATERIALS - OUTER LINER CUT PROTECTION	245 g/m ² polycotton/Kevlar 140 g/m ² CoolMax® 5 layer polyester	88%Cordura/Kevlar 12%Spandex 55%CoolMax®45%Coolpass® 4 layer Polyester 160g/m ²	Cordura/Elastane/Armortex 6 Layer
POCKETS	2x Front-slant, 1x Srench, Ruler pouch tool-holder. First Aid pouch.1x Cargo	2x Front, 1x Srench, Ruler pouch tool-holder. First Aid pouch.1x Cargo	2x Side zipped, 1x Rear zip, press-stud left leg cargo
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	Low bulk 5 layer protective material. Armortex® Kevlar® reinforcement to knees and right thigh. Teflon® Shield+ waterproof and oil/dirt repellent coating. Cordura® knees/seat/ankes. Zip detachable gaiters Type C DISCONTINUED in France but available in the UK as a special. *Rear Vent zip on Type A Only	Lightweight 4 -layer protection. Knee reinforcement in Armortex and Kevlar, right thigh in Cordura Rear leg material Ripstop and breathable mesh. Removable gaiters. Dirt and water repellent Teflon treated RIRI® button closure. Zipsol® system for extra pockets. Cargo pocket on the left leg has dust flap. High back. Elasticated waistband	6-layer European Protective Material Multi-directional material for increased movement and comfort (89% PES, 11% Elastane). Pre-formed Armortex KFM abrasion resistant knees (waterproof) YKK zips throughout. ArmortexKFM Re-enforced belt loops. Tri-Loop brace system. Wide waist band with button fastening.
OTHER COLOURS			
NOTES	Authentic Type C DISCONTINUED	Type C HVPA1C DISCONTINUED being replaced by ULTRALIGHT Q3'25	Krieger name discontinued
WEBSITE	solidur.fr solidur.co.uk	solidur.fr solidur.co.uk	steininternational.com

A full-page photograph of an arborist working in a tree. The arborist is wearing a black helmet, a black t-shirt with a blue logo, black pants with 'Teufelberger' written on the leg, and red gloves. They are using a chainsaw to cut a branch. The tree is covered in Spanish moss. The background is a dense forest with sunlight filtering through the leaves.

Arborist tools

for every situation

Stihl Chainsaw Trousers

Size/Color number	431/02	41/03	41/04	41/05	41/06	431/07
Waist (inches)/waist length	35.5/31	38.5/33	39.5/33	40.5/33	41.5/33	44.5/33

IMAGES NOT TO SCALE
COST: Approx inc local tax/VAT
£/\$/€=currency conversion only
LEGSIZES: S Short R Regular
L Long/Tall XL Extra Long/Tall

STANDARDS: (equivalent to)
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 EN ISO 20471= Visibility
 ANSI107 & CSAZ96= Visibility

EN CUT PROTECTION:
Class 1: 20m/s
Class 2: 24m/s
Class 3: 28m/s
Level A=Front leg. A+= +Calf
Level C=front & back leg

WATER REPELLENT: ●
CLIMBING: Flexible enough to allow dynamic climbing



MANUFACTURER	STEIN	STIHL (STIHL USA)	STIHL
MODEL PROTECTION VARIANT	Sentinel Rail 1C	Dynamic 1C (1C)	X-Flex 1C
SERIES	SENTINEL	DYNAMIC	ADVANCE
PRODUCT CODE(S)	SS-1130155...	008834225..	008834223...
ORIGIN			
COST inc VAT/tax conv-only	£323 \$419 €385	£188 \$243 €225	£293 \$378 €285
WEIGHT per pair (m/lg r)	1.82kg/4lb	1.64kg/3.6lb	1.3kg/2.86lb
STANDARDS REPEL WATER		(USA)	
WAIST & LEG SIZES FEMALE	S-4XL R, L	S34"-XL38" R32.5"	S34"-XXXL46" S, R32.5"
MATERIALS - OUTER LINER CUT PROTECTION	Cordura/Elastane/Armortex 6 Layer	Nylon, Spandex 100% Polyester 6-layer Engtex Avertic Pro	89% polyester, 11% elastane 100% Polyester 6-layer Engtex Avertic Pro
POCKETS	2x Side zipped, 1x Rear zip, press-stud left leg cargo	2x side slant, 1x rear zip, 1x Lg left leg cargo with phone pouch inside	2x side slant, 1x rear zip, 1x Phone 1x zip cargo-left, 1x flap cargo-right
REFLECTIVE BOOT HOOK ANTI-TICK			
ATTACH BRACES ZIP VENTS CLIMBING			
FEATURES	6-layer European Protective Material Multi-directional material for increased movement and comfort (89% PES, 11% Elastane). Pre-formed Armortex KFM abrasion resistant knees (waterproof) YKK zips throughout. 75mm Reflectives. Armortex KFM Re-enforced belt loops. Tri-Loop brace system. Wide waist band with button fastening. Elasticated inner-hem lace hook	Fully elasticated trousers with freedom of movement in the seat and crotch, kidney protection and fitted with ventilation zips and ventilation material on the back of the upper thighs. Reinforced knees, seat and ankle with Aramid	Full elasticated crotch with ProElast for greater freedom of movement. Quick drying fabrics. Elastic and breathable, with elasticated and waterproof knee protection Thorn and water resistance in the lower leg area, dirt resistant, long ventilation zippers on the back of the legs
OTHER COLOURS			
NOTES	Krieger name discontinued Long leg add £10	Tan colour (Coyote)=USA only Also available in EU as overalls	
WEBSITE	steininternational.com	stihl.com	stihl.com



TypeC/360° CHAINSAW TROUSERS



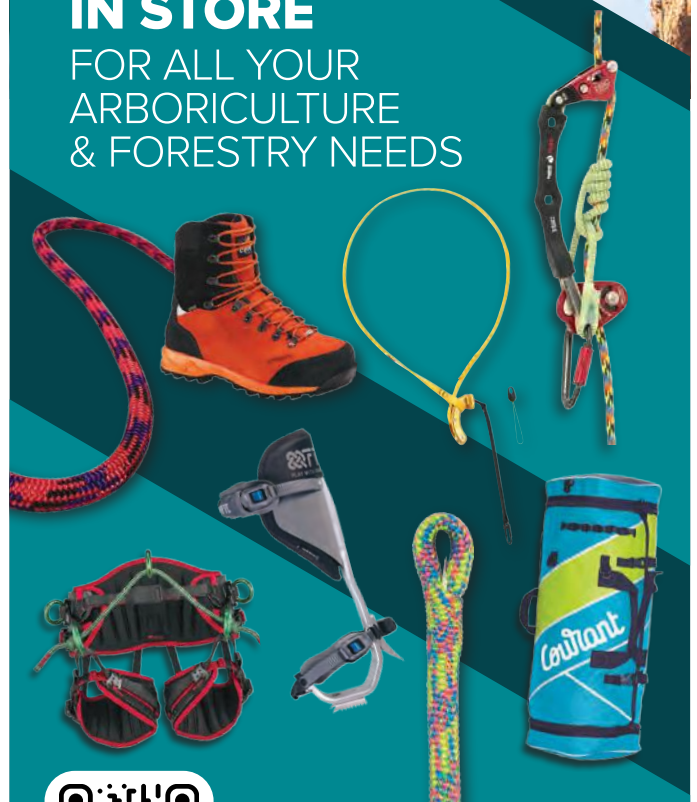
STIHL	TREEHOG
Dynamic Winter (1C)	THHV1670 1C
DYNAMIC (USA)	-
008834225.	AB301420....344
£155 \$170 €160	£222 \$265 €266
1.7kg/3.75lb	1.8kg/3.96lb
	(+HV=)
S30"-XL46" R32.5"	S-3XL S, R, L
Treated Nylon, Spandex Thinsulate 6-layer Engtex Avertic Pro	93% Polyester 7% Elastane 100% Polyester 100% Polyester
2x side slant, 1x rear zip, 1x Lg left leg cargo with phone pouch inside	2x zip Side, 1 zip front 2 zip rear (HV)
Fully elasticated trousers with freedom of movement in the seat and crotch, kidney protection and fitted with ventilation zips and ventilation material on the back of the upper thighs. Reinforced knees, seat and ankle with Aramid. a long leg zipper for easy boot removal.	- Bi-Stretch breathable crotch panel. - Raised kidney panel. - Elasticated waist with wide belt loops.
	TH1670 also available as 1A in Grey. THHV1670 add 5% to price
stihl.com	treehog.co.uk



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NEW for 2025

HAVE YOU CONSIDERED HEADTORCHES?



Headtorches are not something we cover very often in **ARBCLIMBER** though we do in **WILDERNESSSAR** and **TECHNICALRESCUE** but these smart little cookies from *Petzl* really ought to be readily to hand in your truck. *Petzl* are renowned for their pro-standard headtorches (did you notice one of the astronauts on the *Space Station* wearing a *Petzl Tikka* the other day?) and have just brought out a new line-up for their iconic and unobtrusively sized **PIXA**. These are waterproof, robust and durable and include the **PIXA Z0** for dodgy environments.. so if you're working at night near a gas main....what? that never happens to you? The new **PIXA** lineup for 2025 is (from left to right) The **PIXA Z0** - what we used to call intrinsically safe for explosive environments at 350 lumens using disposable AAA batteries, the **PIXA** which is Hybrid using disposable or **CORE** rechargeable batteries and providing up to 450 lumens and the **PIXA-R** using rechargeable **CORE PRO** battery and providing up

to 600 lumens. They're all IP68 and have 'Constant' light technology which means the light output remains stable throughout the battery life rather than surging or decreasing. There are a number of occasions when a headtorch can prove useful to arborists:

- Dawn and dusk starts/finishes: If you're prepping gear before sunrise or finishing up after dark
- Emergency callouts or storm response which always seem to happen at night.
- Confined or shaded areas: In very dense woods, or when working inside tree canopies or hollow trunks
- Tree climbing at dusk: If the job runs long and light starts to fade, a headtorch can help safely finish up or descend
- Recreational tree climbing on big stuff where you're not on a work deadline and time can get away from you admiring the view so there's a greater chance of getting caught out after dusk.

www.petzl.com

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Technical Sales Representative
Southern England

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